SA Journal of Human Resource Management, 2004, 2 (3), 42-53
SA Tydskrif vir Menslikehulpbronbestuur, 2004, 2 (3), 42-53

ENGLISH LANGUAGE PROFICIENCY AS AN INDICATOR OF ACADEMIC PERFORMANCE AT A TERTIARY INSTITUTION

DF STEPHEN
JC WELMAN
WJ JORDAAN
Department of Human Resource Management
Rand Afrikaans University

ABSTRACT

The aim of this investigation was to ascertain the impact of English language proficiency on academic success of first-year black and Indian students in human resources management at a tertiary institution. Students enrolled for the period between 1996 and 2002 were included in the study. Statistical tests of differences between means were conducted. Significantly, the Indian group exhibited superior English language proficiency levels, compared to their black counterparts. The hypothesis that English language proficiency is associated with academic success appears to be substantially correct.

OPSOMMING

Die doel van die ondersoek was om die impak van Engelse taalvaardigheid op akademiese sukses van Swart en Indiese eerstejaarstudente in menslike hulpbronbestuur aan 'n tersiêre instelling te ondersoek. Studente wat vir die periode tussen 1996 en 2002 ingeskryf was, is in die studie betrek. Statistiese toetse vir verskille tussen gemiddeldes is toegepas. Die Indiese groep het beduidend beter taalvaardigheid as hulle Swart eweknieë openbaar. Die hipotese dat Engelse taalvaardigheid met akademiese sukses verband hou, blyk substantief korrek te wees.

The problem

Until 1989, South African tertiary institutions were developed to meet the needs of particular race groups. A quota system allowed a maximum of 8% of "other" race groups than white to register as students. Once this quota was abolished, there was a significant influx of other race groups, especially to the historically white institutions. While in some cases white enrolments dropped (Committee of Technikon Principals, 1998), there was a rapid increase in black enrolments, such that Fourie and Naude-de Jager (1992) predicted that by 2010, 81% of higher education students would be black.

This sudden demographic change led to a variety of problems for which most institutions appeared to be unprepared (Zaaiman, van der Flier and Thys, 1998). A major concern in this regard was the unacceptably high failure rate of these new students. Indeed, compared to an ideal average of about 33%, South Africa produced an average graduation rate of 15% – and cost taxpayers R1,3 billion in subsidies (Anstey, 2003). The wastage in time, effort and money is such that this cannot be allowed to continue. Neither can the high dropout rates and the readmission of students who take five or six years to complete a three year qualification. It became obvious that many of these students had little potential for academic success (Huysamen, 1996; Huysamen & Raubenheimer, 1999), and simply clogged up the system. To make matters worse, the non-payment of fees put extra financial stress on institutions (Stuart, 1998).

It was also obvious that, while the pass rates for all race groups could be much improved, the black students' pass rates were by far the worst. In 1998 the Examination Committee of the tertiary institution reported a 77,4 % pass rate for white students, compared with a 47,8 % pass rate for black students. The results of the Indian and "coloured" students fell somewhere between these figures.

This then begs the question: how did these students gain entry to institutions of higher education, and what must be done to ensure that only candidates with reasonable potential for academic success are admitted. It is the perception of the writers that high levels of English language proficiency are a critical factor in achieving academic success.

Requests for copies should be addressed to: DF Stephen, Department of Human Resource Management, RAU University, PO Box 524, Auckland Park, 2006

File (1986, p. 28) stated that" academic ability and performance are massively affected by class", while Blacquierie (1989) hypothesises that because of their impoverished backgrounds, especially black students, particularly in English language proficiency (specifically reading speeds and levels of understanding of subject content) "have missed out on the academic experiences which are necessary to develop some of the concepts and schema they need to deal with tertiary studies".

In effect, white, wealthy, urbanised English-speaking students tend to obtain the best results, and black, poor, rural students the worst. In addition, English first language students consistently outperform their English second language counterparts (Miller, Bradbury & Wessels, 1997). While the transition from school to higher education is fairly traumatic, it is probably more traumatic for black students, as it represents a transition into a comparatively alien socio-economic environment (Fraser, 1992; Badenhorst, Foster & Lea, 1993); one in which the tuition, the text books, the tests and examinations are all in English – yet the students are English second language students (Parsons, 1993). If a student has difficulty understanding the language of instruction, the potential for academic success is at best circumscribed.

Thus it is hypothesised that for black students in higher education to succeed academically, higher levels of English language proficiency are required. Indeed, "language proficiency pervades every area" (Cummins, 1984, p. 132), and language proficiency "is the most important single moderator of test performance" (Van den Berg, 1996, in Van Eeden, de Beer & Coetzee, 2001, p. 171). The trouble is that, while academic staff may consider English as a major cause of academic difficulties, students often feel that they experience few problems with English language (Dunstan & Frescura, 2001). This indicates that many students have a low awareness of their specific problems in this regard.

Background to the problem

Traditionally, entry to South African higher education institutions has been through the possession of a matriculation school-leaving certificate. In general, subject grades are awarded points and, if sufficient points are obtained and, in some cases, specific subject pass requirements are met, then there is a high potential for acceptance. The use of matric symbols appears to

be a controversial topic, with different researchers providing somewhat different results. This is a traditional system which has been used successfully for many years, "a surprisingly excellent indicator of subsequent academic success" ((Badenhorst, Foster and Lea, 1990, p. 40; Potter & Van der Merwe, 1993; Jawitz, 1995). However, it is a less than consistent predictor for black students (Welman, 2000), and it is suggested that in their case "Matriculation cannot be taken as a true reflection of their academic potential" (Skuy, Zolezzi, Mentis, Fridjohn & Cockcroft, 1996, p. 110).

Similarly the use of psychometric testing is mired in controversy (Miller, 1992; Huysamen 1996; Huysamen 1997; Goldstein, 2001).

Following the downward trend in matriculation results (to a low of 47% in 1997 – Bissetty, 2001), there has been a steady increase in pass rates but, once again, the "wealthier" provinces appear to obtain better results. Even these improved results mask the fact that black pass rates in mathematics and science in government schools are low (13% and 14% at standard grade respectively), thus precluding the majority of students from entering most commerce and science courses. The improved pass rates have also been criticised by Professor Jonathan Jansen, who suggested that standards may have been modified (Jansen, 2003; Oliver, 2003), resulting in many academically poor and under-prepared students gaining access to higher education.

The school environment is all too often not conducive to learning. Frequently under-resourced and lacking properly trained teachers – many of whom exhibit low morale – mismanagement and high crime levels are all simply negative factors (Maluleke, 2002; Ngidi, 2002), and in too many instances the culture of learning has been discarded (Barnard, 1997). Those who survive this system lack career guidance and as a result often do not register for courses suited to their needs or academic strengths: yet the objective of many is to obtain a qualification – any qualification – for which they can gain entry (Nolte, Heyns & Venter, 1997).

No commentary on the education system in South African can be complete without mentioning the effects of HIV/AIDS. The debilitating effects of this illness on teachers must affect their ability to be productive and contribute to the lowering of teaching standards. AIDS related deaths will cause ever greater shortages amongst specialist subject teachers – e.g. mathematics and sciences. In the Kwazulu Natal province an estimate (Bisetty, 2003) put the infection rate of teachers at 35%. Amongst students, an infection rate of one in four students tested in 1998 at the University of Durban-Westville (Govender, 1999) was reported – by now it is probably higher. Infected students have lowered vitality and increased failure potential, thus increasing their time of study and decreasing the length of their post-qualifying careers. Each highly skilled individual who dies of AIDS will cost an estimated R250 000 to replace (Taitz, 2000).

While it is easy to regard black students as victims, and in many cases they are, it must be remembered that many of these students were extremely militant, especially immediately pre and post 1994. They brought with them a carry-over from disruptive township schools and a culture of entitlement to higher education. Demonstrations and "demands" were quite commonplace. These attitudes were often not well received by staff. In one case, the situation at one university was such that the (then) President Mandela severely criticized their actions (Vapi, 1998).

Many students suffer from feelings of alienation (Keating, 1987), which impacts negatively on their learning: many come to lectures with a "you owe me something" attitude, and do not respond to questions or interact with staff (Goduka, 1996). Many black students are resentful of their inability to cope with their courses (Kilfoil, 1999), and blame the lecturing staff (Ruth, 2000). They do not accept personal responsibility for their failure, and want everything handed to them on a place (Goduka, 1996). Most appear more interested in passing examinations than in acquiring knowledge (Ruth, 2000). These attitudes are generally not well received by staff.

To make matters worse, in most universities and technikons there were rapid increases in class size (Ferreira, 1995), thus precluding the ability of lecturing staff to provide personalized attention to students in need. Lecturers were generally slow to adapt their lecturing styles, were increasingly forced to become good teachers (Moulder, 1995), and in many cases put research on the back burner (Barron, 1996; Financial Mail 2000), as they were forced to spend more time teaching under-prepared students information they should have learned at school.

To meet the problem of under-prepared students, many institutions have initiated bridging programmes. Their effectiveness is "spotty": some have succeeded (De Villiers & Rwigema, 1998), while others suggest little or no positive outcomes (Ferreira, 1995). It appears that such courses have greater potential for success if they are not "add on" courses, but are an integral aspect of courses offered (Wood, 1997) in order to overcome student resistance and lack of commitment (Kasanga, 1999). Central to these bridging courses is English comprehension, leading to the ability to transfer skills from one discipline to another (Kilfoil, 1996).

It is also necessary to identify students "at risk" as early as possible, so that remedial action can be taken. Potter and Van der Merwe (1998) suggest that first year assessment tests are excellent indicators, while Pantages and Creedon (1978) and Coen, Reichgott and Spencer (1991) suggest that the best indicators of future success are the first semester examinations.

Factors influencing student success

Academic success is not purely the application of intellectual capacity. Many factors directly or indirectly affect academic success. In this section influencing factors, especially as they apply to either black or English second language students, will be considered. A schematic diagram indicating the various influencing factors and how they inter-relate is provided in Figure 1.

Non-completion rates appear to be of universal concern: Pantages and Creedon (1978) indicate 50% dropout rates in the USA; in Canada, Johnson and Buck (1995) report that even after an additional year of study, 42% of students still fail to complete their qualification, while in the United Kingdom, Johnes and Taylor (1989) found significant variations in completion rates of up to 22%.

There appears to be agreement that social and academic integration is critical to success (Tinto, 1997; Blustein, Judd, Krom, Viniar, Padilla, Widemeyer & Williams, 1986; Johnson & Buck, 1995), which has a direct influence on levels of persistence and motivation (Stage & Williams, 1990). The better the people/environment fit, the greater the potential for success (Pascarella, Terenzini & Wolfle, 1986).

These factors would appear to be critical in relation to black South African students, given the considerable dislocation they encounter when entering higher education and the high levels of alienation often felt by these students. In many cases poor school leaving results and poor first test results simply reinforce a downward spiral of discouragement , often leading to dropout (King, 1995).

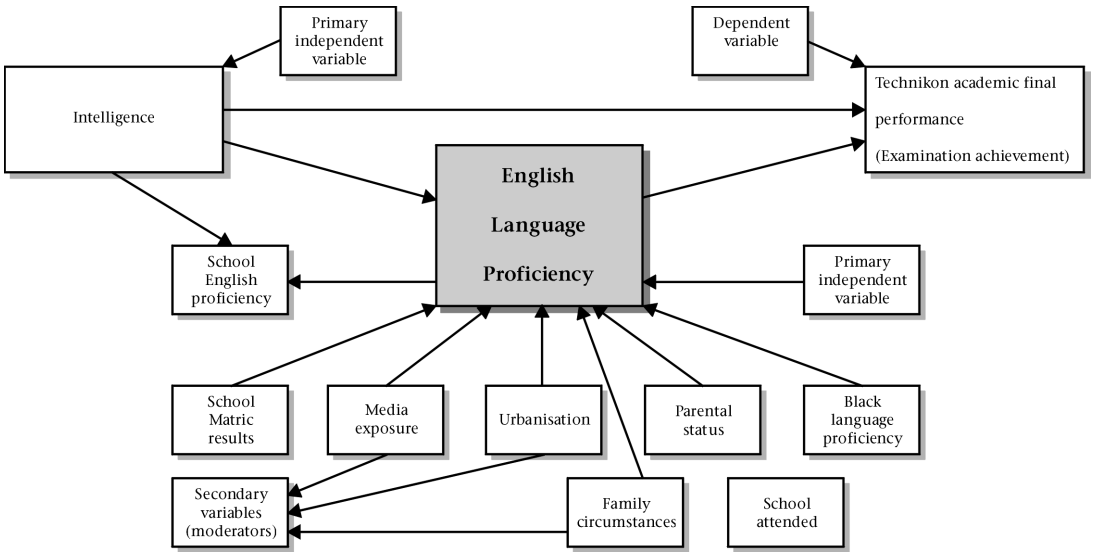

Figure 1: Some factors possibly influencing tertiary institution academic performance consequent upon English language facility

The main moderating factors include:

English language proficiency of English second language (ESL) students
Vinke and Jochems (1993) indicate that the lower the level of English proficiency, the more important it becomes in defining academic achievements, while Barker (1988) indicates that while students may be able to speak English, they still do not operate at maximum capacity because of the language barrier. In Australia, Holder, Jones, Robinson and Krass (1999) state that most ESL students lack literacy skills for successful university study.

The critical impact of English proficiency cannot be underestimated: most black students have problems pertaining to reading and writing ability. Most read at 174 words per minute with 62% understanding, compared with 240 words per minute and 70% understanding for students (Blacquierie, 1989). Craig and Kernoff (1995) are more pessimistic, indicating that only 2% of blacks read at the independent level (60% comprehension or better), while 67% scored at the frustration level (less than 40% comprehension); the rest (37%) required assistance.

Intelligence
High levels of intelligence are prerequisites for academic success. In the United States of America, the Grade Point Average (GPA) – the student's school leaving average – is regarded as an exceptional indicator of academic success (Blustein, et al, 1986; Jones 1990). In Europe, Van Overwalle (1989) and in England, Johnes and Taylor (1980) also found that school leaving results are the best indicator of future academic success. However, 'minority' (black) students do not appear to perform well in this area and in the United States of America, routinely score one standard deviation below their white counterparts (Shochet, 1994; Linn, 1990; Huysamen & Raubenheimer, 1999). Note that many of these (black) students are from lower socio-economic backgrounds, thus the similarities to black students in South Africa are obvious.

Degree of urbanisation
Little attention appears to have been given to this topic. In the USA, Pantages and Creedon (1978) and Spady (1971) indicated that high dropout rates were associated with students from rural areas/small towns, while in Australia, Stevens and Walker (1996) agreed, indicating that students from rural communities found universities a "lonely and alienating place" where considerable social support was required.

In South Africa, both Dawes, Yeld and Smith (1999) and Miller (1989) note the differences between rural and urban studentsand made the point that urban, high socio-economic groups out-perform low income rural groups of students.

Family circumstances
This factor appears to exert significant impact on student survivability. In general, the lower the socio-economic background, the greater the potential for dropout/failure (Pascarella, Terezini and Wolfle, 1986). The education of parents appears to be a signficant factor: highly educated parents' children appear to have greater success/survivability potential (Pantages & Creedon, 1978).

In lower socio-economic areas where less social integration with other races and culture groups takes place, Afro-Americans especially had considerable difficulty 'fitting into' university culture (Loo & Rolinson, 1986). This phenomenon is not confined to the USA – in Ghana, the children of educated, successful urban dwellers had five times the success potential of their rural, agricultural contemporaries (Huysamen, 1996). The impact of these influences on the success potential of black students in South Africa is obvious.

Last school attended
In general, there appears considerable evidence to support the thesis that good schools produce good university students, as the students are better prepared for the jump to higher education (Johnes & Taylor 1989; Pantages & Creedon 1978).

The link between family circumstances and the type of school attended is obvious. Parents of high socio-economic class can send their children to better schools, with smaller class size, better teachers, etc. and obtain better academic scores (Huysamen, 1996; Zaaiman, van der Flier & Thuys, 1998). File (1986) found that matric results were highly stratified along class lines and socio-economic background. The school attended reflects the degree of 'westernisation' to which the student is exposed: access to first-world culture, print-rich environments (Von Gruenewald, 1999), television (Smit, 1991; Lyons, 1992), are all existing in a favourable learning environment.

Factors influencing English language proficiency

According to Van Eeden, de Beer and Coetzee (2001, p. 171),"reading proficiency is the most important moderator of test performance". However, for the majority of (especially black) students, "the reading situation in South Africa constitutes a national educational crisis" (Pretorius 2002, p. 170).

Most black students pass matriculation English as a second language, often at Standard rather than Higher Grade level. Jansen (2003, p. 19) states that black students "receive marks for simply writing their names on the examination paper", thus pushing through marginal students into higher education.

As many of these students have to decode English into their mother tongue and then reinterpret their thoughts into English, considerable potential for misinterpretation occurs (Mavundla & Motimele, 2002). To this is added an inability to clearly express their thoughts in written form, all of which translates into high failure potential. Such students need assistance to improve their literacy skills (Holder, Robinson & Krass, 1999) in order to understand the 'rules' and conventions of academic discourse (Amos & Quinn, 1997). Unless these deficits are assessed prior to entry, their potential for success is limited (Farnill & Hayes, 1996). Weak English proficiency translates into a weak understanding of the subject content which, together with poor writing skills simply exacerbates the potential for failure (Amos & Quinn, 1997) as they are trapped in a vicious cycle of inadequacy.

While they may be able to engage adequately in social conversation, the reading maturity levels of black students in South Africa is extremely low. Pretorius (2002), quotes, inter alia, only 18% functional literacy levels for Gauteng technikons in 2000, and 95% applicants for a teacher's training college reading at below Grade 8 level. The problem appears to be especially acute in rural areas, where Grade 8 students (average age 14,4 years) have the reading age of children aged 7,6 years.

A study by Starkey (1998) at a tertiary institution indicated that over 90% of black students lacked comprehension skills for successful completion of their courses. This doubtless translates into low examination pass rates (47,8% in 1997 – Examinations Committee the tertiary institution, 1998) and high levels of dropout, non-attendance of lectures, and early recognition of failure (Maxwell, 1998).

English language proficiency is inhibited by a variety of factors. These include:

1. *Rural environment*. In some rural areas, English is almost a foreign language. Where English proficiency exists as a literal rather than an inferrential level and where meaning interaction (Souter, Archer & Rochford, 1992) with English is rare (Jackson, 2000).
2. *School teacher English proficiency*. Most black teachers are young, frequently inexperienced, and often under-qualified. Although they are taught pedagogics, once in the classroom, they revert to the inefficient rote learning systems in which they were taught (Nyamapfene & Letseka, 1995). This approach results in high levels of student passivity. Questions are discouraged (Blacquierie, 1989).
   Once students from such an environment enter higher education, they are disadvantaged and often unable to adapt to the discourse-based environment in which they find themselves (Wallace & Adams, 1989; Pickworth, 2001).
   To make matters worse, many rural teachers themselves have low levels of English proficiency and many operate only at the literal level. Although they are required to teach in English, they teach in the vernacular and hand out summaries and notes in English which the students are required to (rote) learn (Jackson, 2000). Unless teacher English language proficiency improves, this situation is unlikely to improve as students have little to learn from their teachers.
3. *Cultural influences*. Many third-world students lack critical analytical reasoning power, given their background of rote learning, under-trained teachers, etc. Not all speak English confidently (Farnill & Hayes, 1996). Compared to their white counterparts, they are out of their depth in an alien culture. The situation in South Africa is exacerbated by the orality of Bantu languages: especially in an academic context, English is based more on the written word.
   Orality, especially when reinforced by rigid learning and reasoning styles (Jordaan, 1995) hampers cognitive functioning in theoretical discourse: students have difficulty moving from a "right or wrong" to a "better or best" approach to problems (Craig & Kernoff, 1995). To compound an already inadequate situation, different cultural groups classify information in different ways and produce different learning styles (Van Dyk & Van Dyk, 1993; De Winter Hebron, 1991). White, westernised students' cultural background is appropriate to that found in textbooks: for the cultural milieu of the average black (especially rural) student, these texts are simply inappropriate.
4. *Learning and memorising strategies*. In order to overcome the problems of inadequate English comprehension, many black students in order to survive, resort to rote learning strategies. Although they may have been adequate for the school situation, these strategies are totally inappropriate to the higher education environment.
   Rote learning results in a superficial approach – the ability to regurgitate information while frequently lacking in understanding or insight of what has been memorised, when what is needed is a deeper approach which requires the understanding and application of information (Mji, 1999; Pickworth, 2001). It is very difficult to wean students from years of passive learning, especially if students using this method are able to regurgitate huge chunks of information in order to avoid failure (Meyer, Dunn & Sass, 1992).
5. *Problems regarding verbal comprehension*. Although black students use vernacular language for social situations, they recognise English as the language of education and commerce: thus it is the most practical choice as a medium of instruction (Lazenby. 1996).
   While many black students are able to engage in general conversational English (to a greater or lesser degree), they lack the ability to express themselves in written form, or to handle the technicalities of subject matter (Jiya, 1993). Verbal comprehension is an essential prerequisite for written competency. If this is lacking, students either require an interpreter or simply withdraw and become uncooperative. In many cases, they feel overwhelmed by an environment in which everything is in English (Jackson, 2000).
6. *Problems regarding transferability of language skills*. On average, while it is possible to become reasonably proficient in social conversation in about two years, it takes five to seven years to become competent in verbal-academic skills (Cummins, 1984).
   While some aspects of language are transferable to other languages – proficiency in one language facilitates proficiency in another as the basics of grammar, etc. have already been learned – an additional problem is that many black students have not become proficient in their home language (Nyamapfene & Letseka, 1995) and thus have little basic language skills on which to build. Often illiterate in their own language (Kilfoil, 1999), they regard English as just another subject to be learned and passed. Thus they do not concentrate on developing English proficiency and are surprised when they cannot cope with the level of English proficiency required of them at post-school level.
7. *Problems regarding reading proficiency*. The ability to read rapidly and understand content is critical for academic success, yet South Africans routinely perform poorly compared to the other countries (Bohlman & Pretorius, 2002). They suggest that the reason for this situation is

poor language proficiency. Poor reading ability reduces comprehension levels. Indeed, Starfield (1990) indicates that declining English standards affect black students' ability to cope in other school subjects. Many black students 'read the line' with little comprehension or ability to draw inferences or conclusions from what has been read (Souter, et al, 1992). This means that most black students read at the lowest level of reading – the frustration level (less than 90% decoding accuracy and 60% or less comprehension) when they should be operating at a minimum of instructional level and preferably at the independent level (ie: be skilled readers).

Bohlman and Pretorius (2002) found that about half of the students in their study had less than 20 books in their homes and 40% didn't read much beyond their study requirements. Yet most were unaware of the low reading levels and that they were reading considerably below their instructional level. Until this attitude changes, little can be done to improve the situation and such students will continue to regularly miss vital clues in texts, keep 'missing the point' of texts, and have problems with visual information (Bohlman and Pretorius, 2002). Indeed, students may read a passage three or four times and still lack understanding (Jiya, 1993).

8. *Problems related to written English*. Poor English language spoken and reading skills will impact adversely on English writing skills: these factors are inter-related. It is possible to be fairly fluent in spoken English but be inadequate in writing, and especially academic writing skills as two different types of skill are required.

   Conversation skills are relatively undemanding and context-embedded: continuous, rapid feedback is provided to the speaker. These skills are known as basic interpersonal communication skills or BICS. By comparison written academic language is cognitively demanding and context reduced. This is known as cognitive-academic language proficiency, or CALP. Despite high oral fluency (BICS), black students are unlikely to be successful academically because they have inadequate CALP skills (Cummins, 1980 & 1984). Miller, Bradbury & Wessels (1997) found that such students perform better on multiple choice questions (which rely on rote learning) rather than essay questions which require different skills – those of being able to present coherent, organised arguments, and the ability to distinguish between vital and trivial arguments. Consequently, student inadequacies in writing coherent, organised assignments or essays frequently drives markers of such essays to distraction (Orr, 1995; Paxton, 1995; Miller, 1996). CALP skills must be formally developed and integrated as part of any post-school course if this situation is to be improved.

RESEARCH DESIGN

Having perused the literature and identified a variety of factors impacting on academic performance levels of first year students in the Diploma: Human Resources Management at a tertiary institution, the following research questions were identified.

- To what extent is English language proficiency a predictor of academic success? Is there a relationship between English language proficiency and academic success amongst black first year students of human resources management?
- To what extent is English language proficiency influenced by a variety of personal and social factors? These factors include inter alia intelligence and family background.

Research methodology

The aim of the investigation was to ascertain factors which are critical to academic success, and which may be utilised in the selection process to identify students with high academic success potential.

Sample selection

The research focussed on the academic success of students in the first year of study for the National Diploma: Human Resources Management at a particular campus of a tertiary institution.

Participants were only those who entered the Diploma as full-time students, usually straight from school. Students who were repeating their first year of study or who entered the course via another diploma or through the bridging course were excluded, as were part-time students and students currently engaged in other diplomas, as the entry requirements for these groups are often different.

The main emphasis was on black (Bantu) students. Following violent student demonstrations by militant students in 1995, enrolment for the Human Resources course became almost exclusively black for several years: further enrolments of (the previous majority) white students to all intents and purposes ceased. There were also withdrawals from the course of white students who were already in their second and third years of study as a result of these demonstrations.

Thus it was not possible to compare academic progress with other race groups. However, in 2000 a few Indian students enrolled, but it was only in 2001 and 2002 that sufficient numbers enrolled to provide a statistically adequate size sample for use as a comparison group.

Research procedure and data collection

The research procedure was as follows:

- To obtain a benchmark for comparison with present students, data pertaining to 54 black students who enrolled in 1996 and who met the criteria for inclusion in the study, was collected. This group was chosen as they had six years in which to complete their studies – thus they had to have completed their studies in 2001. This made them the most up to date group for comparison.
- A group of 68 black and 43 Indian students, who entered for the course in the 2001 and 2002 enrolment period and who met the criteria were also selected.
- Comparisons were made between the 1996 and 2001/2002 black intakes to ascertain the degree to which these groups were statistically similar, and to ascertain the extent to which the success rates of the 1996 group could be used to predict probable academic success of the present black intake.
- Comparisons between the black and Indian groups were made to ascertain the extent to which these two groups were statistically similar/different.

  In addition, these two groups were compared on "soft" issues through the completion of a student inventory. Finally, an English second language proficiency test was used to ascertain present levels of English language proficiency for the first year black 2002 student intake.
- Comparisons were also made by combining differing groupings of students (black and Indian) to identify common factors across the full spectrum of students.

Data was collected from two sources:

- Academic data from student records, after which the information was coded and collated, and a variety of statistical analyses applied.

In addition to descriptive statistics – i.a. frequency tables, arithmetic means – inferential statistics such as Spearman's rank order correlations, t-tests, regression analysis and analysis of varations and assumptions of correctness were applied.

- Non-academic data was obtained from the self-report student nventory.

More specifically, data was obtained for the following academic variables.

- **English proficiency**; measured by the English matriculation results and coded as per Table 1. The English point allocation was doubled. The doubling of matriculation subject marks is not uncommon, nor is it applied solely to English. The doubling of subject marks is discretionary, and is based on the perception that high levels of proficiency in a particular subject is necessary for successful completion of the course, However this decision has to be ratified by the Senate of the tertiary institution.

Table 1
Point allocation of matriculation results for entry to the national diploma: human resource management

Matric symbol result	Higher Grade (HG)	Standard Grade (SG)
A	8	6
B	7	5
C	6	4
D	5	3
E	4	2
F	3	1

- **Academic success**: measured by the number of subjects passed and the performance level in each subject. Points were awarded according to Table 2.

Table 2
Academic success: points awarded for the final mark for each subject

Percentage for each subject	Points awarded
70% or better	5 points
60 – 69%	4 points
0 – 59%	3 points
40 – 49%	2 points
30 – 39%	1 point
Less than 30%	0 points

- **Intelligence**: matriculation results were taken as an indirect measure of intelligence as in the past this was regarded as a good measure of general scholastic ability, and hence also general intelligence. A minimum of 30 points is required for entry to the course. Points were allocated as per Table 1.

With regard to non-academic variables, the following data was obtained on the assumption that academic success is not entirely due to academic influences alone. These influences are reflected in Figure 1.

- **Degree of urbanisation**: measured by the population size and degree of development of the area in which the individual usually resides. The more developed the area, the greater the potential for contact with English language. Points allocated according to Table 3.
- **Family circumstances**: the domestic environment of the family. Higher income families are perceived to be more fluent in English language and have more contact with English language via various media sources. Allocated points as per Table 4.

Table 3
Degree of urbanisation of students: descriptive characteristics of area of family residence

Points	Description
5 points	Permanent residence in a large town/city – e.g. Durban, Pietermaritzburg. High potential for regular and ongoing contact with both spoken and written English.
4 points	Permanent residence on the periphery of large town/city – e.g. outlying suburb. Potentially less daily/ongoing contact with spoken and written English.
3 points	Permanent residence on the periphery of large town/city, but in an undeveloped area – e.g. typically squatter camp/informal settlement. Little potential for regular contact with written or spoken English.
2 points	Permanent residence in a small town – e.g. Harding. Predominantly rural/agricultural community. Limited access to written or spoken English.
1 point	Permanent residence in a rural/agricultural community. Little or no developed infrastructure. Little potential for contact with spoken or especially written English.

Table 4
Indicators of family circumstances as indicated by the type of employment of parent(s)

Points	Description
4 points	One or both parents in professional/managerial/technical job.
3 points	One or both parents in administrative/higher clerical/lower management type job.
2 points	One or both parents in routine low-level clerical/supervisory type job.
1 point	One or both parents in unskilled/low skilled operator type job.

- **Last school attended**: the type of school attended – e.g. ex-model C; rural schools. Also indicated is the school pass rate for matriculation. Points allocated as per Tables 5a and 5b.

Table 5a
Type of school attended by the students

Points	Description
4 points	Old Model "C" school or equivalent. Tuition in English well-resourced, with smaller class sizes and more individual tuition
3 points	Predominantly/entirely black student body in Government school in large town/city.
2 points	Predominantly/entirely black student body in Government school in small town.
1 point	Rural school. Probably under-resourced, low level of English tuition, large class sizes.

Table 5b
School matriculation pass rates

Points	Description
4 points	80 – 100% pass
3 points	60 – 79,9% pass
2 points	40 – 59,9% pass
1 point	20 – 39,99% pass
0 points	0 – 19,99% pass

RESULTS AND DISCUSSION

As anticipated, the 1996 intake showed high rates of both failure and persistence. Of the 54 students in this group, 40,74 either "dropped out" or were refused readmission, the majority (31,48%) doing so at the end of the second year of study. Two students completed the course in the required minimum of three years; another four did so in four years. The remainder (48,14%) took two to six years to complete the course. High levels of repeating of subjects occurred: there were 14 subjects in the course, and nearly a third had to write 20 or more subject examinations to pass.

A comparison of the 1996 and 2001/2002 black intakes is shown in Table 6, and they are essentially similar in profiles.

TABLE 6
LONGITUDINAL COMPARISONS OF MARKS 1996 AND 2001/2002 BLACK INTAKES

Variable	Group	Arithmetic Means	p-values
English at school	1996	10,78	0,138
	2001/2	10,28	
Final mark at school	1996	32,82	0,793
	2001/2	33,05	
English at Technikon	1996	53,6	0,125
	2001/2	51,2	
Final mark at Technikon (First year of study)	1996	15,07	0,018
	2001/2	12,79	

A comparison of means, by applying the t-test statistic across the two groups' academic profiles revealed that there was no significant difference between the two groups in three of the four test results, as the results did not reach the critical p-value of 0,05. However, the final year end mark yielded a p-value of 0,018, which was statistically significant: the 1996 intake exhibited significantly better results than the present group of students. This is surprising, given that the present group had slightly better matriculation symbols and first test results. This then suggests that Jansen's (2003) comments pertaining to matriculation mark manipulation might be appropriate.

If this is the case, then the use of matriculation results as a predictor of academic success must, at the very least, be reconsidered.

Given that the two groups are statistically similar, it suggests that the present (2001/2002) intake will also experience high levels of dropouts and extended re-enrolments.

With regard to the 2001/2002 black student intake, an examination of subjects passed and English passed reveals a high relationship: those who passed their end of year examinations in English language tended to do well in other subjects. The relationship is shown in Table 7.

Comparisons of the 2001/2002 intake reveal considerable differences between the black and Indian cohorts. This information is shown in Table 8, and indicates that the Indian group routinely out-performs their black contemporaries.

When comparison of the group means of black and Indian students (by applying the t-test statistic) was done, it became obvious that the two groups were statistically different, and that the Indian group consistently out-performed their black contemporaries. This information is presented in Table 8a.

TABLE 7
ENGLISH SICCESS/FAILURE RATES – 2001/2002 INTAKES

Subjects passed	Fail English	Pass English
5	–	19
4	1	11
3	3	5
2	7	5
1	3	3
0	8	0

TABLE 8
INDIAN/BLACK 2001/2002 INTAKES COMPARED

Eligibility	**Black**	**Indian**
Intelligence (matric marks)	33,05	35,07
English proficiency (matric English marks)	10,28	12,52
Academic progress	**Black**	**Indian**
Academic success (pass rates)	12,79	19,37
First test results	13,68	21,3
English first test	3,6	4,26
English year end mark	4,26	4,71
No distinctions	87%	9,4%
1-2 distinctions	13%	84,4%
More than 2 distinctions	–	6,2%
Numeracy based subjects taken at matric level	37%	93%
Demographics	**Black**	**Indian**
% female enrolment	77,6%	92,0%
Urbanisation – city and surrounding suburbs	45,5%	86,0%
Small town/rural	45,5%	14,0%
Family circumstances: low/unskilled	61,5%	30,4%
Clerical/admin etc.	23,1%	47,8%
Managerial	15,4%	14,0%
Exposure to media	24,59%	26,76%

TABLE 8A
COMPARISONS OF MARKS: BLACK AND INDIAN STUDENTS

Variable	Race	Arithmetic Means	p-values
English at school	Black	10,5	0,000
	Indian	12,51	
Final mark at school	Black	32,94	0,012
	Indian	35,07	
English at Technikon	Black	52,32	0,000
	Indian	66,19	
Final mark at Technikon (First year of study)	Black	13,9	0,000
	Indian	19,37	

A significant factor that emerged from this analysis is that all members of the Indian group did English as a first language subject in matric, and used English as a home language. The majority of the black group did English as a second language at

TABLE 9
CORRELATIONS BETWEEN THE VARIOUS GROUPS

	Overall		Black 1996		Blacks 2001/2002		Blacks Overall		Indians 2001/2002	
	Corr	p	Corr	p	Corr	p	Corr	p	Corr	p
Final Tech Mark with Final Eng Mark	0,691	0,00	0,487	0,00	0,513	0,00	0,532	0,00	0,893	0,00
Final Tech Mark with Eng Test Mark	0,396	0,00	0,407	0,00	0,253	0,01	0,717	0,00		
Final Tech Mark with Final School Mark	0,266	0,00	0,191	0,04	0,338	0,03				
Final Tech Mark with Eng School Mark	0,340	0,00	0,425	0,00	0,497	0,00				
Final School Mark with School Eng Mark	0,468	0,00	0,467	0,00	0,465	0,00	0,454	0,00	0,565	0,00
Final School Mark with Tech Eng Mark	0,242	0,00	0,535	0,00						
Tech Eng Mark with Tech First Eng Test	0,550	0,00	0,483	0,00	0,488	0,00	0,424	0,00	0,738	0,00
School Eng Mark with Tech First Eng Test	0,296	0,00	0,423	0,00						
School Eng Mark with Tech Eng Mark	0,445	0,00								
Urbanization with Tech First Eng Test	0,362	0,02								
Urbanization with Tech Eng Mark	0,169	0,04								
Black Lang Prof with Tech First Eng Test	0,243	0,02	0,320	0,03	0,243	0,02				
Black Lang Prof with Tech Final Mark	0,355	0,01								
Black Lang Prof with Final School Mark	0,219	0,03	0,338	0,02	0,219	0,03				
School Attended with Final Tech Mark	0,245	0,03								
School Attended with Tech Eng Mark	0,350	0,00								
School Attended with School Eng Mark	0,285	0,01								
School Matric Pass with Final Tech Mark	(0,277)	0,03	(0,321)	0,049	(0,321)	0,049				
Family Circum with Tech Eng Mark	0,299	0,02								
Comment: ( ) indicates negative values. p values rounded to 2 decimals										
Sample Size:	167		54		68		122		43	

matric and only 2,6% reported speaking only English at home. The remainder spoke vernacular.

A series of correlations between the various groups was calculated. This information is presented in Table 9.

Whenever the Indian group was included in the correlations, they showed reasonable levels of predictability indicating that the traditional selection systems of matriculation English and matriculation final marks were appropriate. However, once the Indian students were withdrawn, the predictability of these traditional measures declined. Only the Indian group consistently related to the traditional success indicators. For none of the black groups could success be predicted from traditional selection methods. Indeed, for the 2001/2002 black students, the school matric pass rates presented a negative relationship with final technikon marks.

For the black student groups, the best predictor for academic success is that of technikon English – i.e. the student has to be in the system before reasonably accurate predictors regarding success can be made. This factor was also a good predictor for the Indian group.

In an attempt to improve predictability of the key variables, a regression analysis was conducted. In all cases, the R^2 values were higher for the Indian than for the black groups, and explains a higher proportion of the variability in the dependent variable, which is academic success.

Essentially, the results were as follows: for predicting final technikon mark: Indian students ($R^2 = 0,758$) and Black students ($R^2 = 0,244$). For predicting final English mark: Indian students ($R^2 = 0,768$) and Black students (R2 = 0,384).

While these are, statistically speaking, good predictors for Indian students, this is much less the case for the black students. It is significant that for the Indian group, as English marks progress, the marks obtained become an increasingly powerful predictor of academic success – viz: Matriculation English: $R^2 = 0,204$; Technikon first test: $R^2 = 0,529$; Technikon English mark $R^2 = 0,730$.

Tests for assumptions of correctness for the predictive models created above were carried out. Only the Indian group was considered as the black group correlations and regression analyses were relatively weak indicators. Applying the Shapiro-Wilk test for normality, it was found that a p-value of 0,62 occurred, indicating that the model was acceptable as a predictor for technikon marks. With regard to testing the technikon English marks, once a significant outlier had been identified and deleted, this too met the test for normality (p-value of 0,115), which means that as the requirements for a good predictor have been met, they could be considered as part of the student selection process for this group.

In addition, the black 2002 intake was requested to complete the Proficiency Test English Second Language Advanced Level, devised by the Human Sciences Research Council. There was considerable resistance to this, and only 27 responses were forthcoming. While the number or responses is low, it does provide an indication of the proficiency level of English of this group compared to their peers throughout the country. This information is indicated in Table 10 and shows that no-one scored above stanine 7. The results were heavily skewed and indicate a below average English proficiency. For a supposedly elite group, this result is disturbing.

Table 10
English language proficiency: 2002 first year student intake english aptitude test

Stanine	Description	% of Testees	T.N. Student Response	% of Group
9	Very good	4	–	
8	Good	7	–	
7	Above average	12	1	3,70
6	High average	17	1	14,82
5	Average	20	5	29,63
4	Low average	17	7	25,93
3	Below average	12	8	18,52
2	Poor	7	4	3,70
1	Very poor	4	1	3,70
				100,0

Non-academic aspects
The following three aspects were considered as potential areas of influence on student academic performance.

Degree of urbanisation
The Indian group represented a much more urbanised group than their Black cohorts: 86% of the Indian group were classified as residing in a city and surrounding suburbs, compared to only 45% of Black students.

Family circumstances
While there was a spread for both groups along the socio-economic spectrum, the majority of the black responses (61%) reported their family circumstances as being in the low/unskilled category. This was twice as many as the response for the Indian group in this category. The bulk of the Indian group (48%) appeared to be in the clerical/administrative sector. Both groups reported approximately equal percentages of parents (14%) in the managerial group.

The differences between the two groups showed indirectly in their response to their reading patterns: the Indian group indicated greater regularity in reading newspapers, magazines and books than did the Black group (refer to Table 12).

School attended
Both groups almost entirely attended government schools catering mainly for their respective race groups. In both cases they appeared to be those schools which produced the best matriculation results – i.e. 80% or better pass rates. Thus there was little to choose between the groups.

Reference to Table 9 indicates that only one of the above three factors (i.e. urbanisation) has any significant influence on the results of the Indian students. For the Black groups, there appeared to be differences between the 1996 and the 2001/2002 intakes as to the extent to which these factors exert a significant influence, although there appears to be a spill-ver effect when the various groups are combined.

It is of interest to note that the school matriculation pass rate correlates negatively with the Black 2001/2002 intake, but not with the Black 1996 intake. This could indicate that an intervening variable has occurred for the new intakes, as Jansen (2003) suggests – namely that Black matriculation marks may have been manipulated.

While the "non-core" non-academic variables individually appear to exert little predictive influence, it was decided to combine the variables to ascertain whether their combined influence could significantly impact on academic performance. To this end, a new variable comprising four non-core variables was established, and computed as follows:

Family circumstances + school type + urbanisation + a converted media score 4

Spearman's rank order correlation method was applied, resulting in the following p-values:
- Technikon final first year mark = 0,084
- Technikon English mark = 0,008
- Matriculation mark = 0,334
- Matriculation English mark = 0,024

While the matriculation result did not provide a statistically significant correlation with the combined variable, the combined variable appears to be a good predictor for English at both school and technikon level. If it can predict English marks, which in turn predict final year-end marks, this variable could have potential for inclusion in the selection process, and could be investigated in further research for a larger and more diverse sample.

As it is, the predictor for technikon final first year marks (p=0,084) approximates to the 90% confidence level predictor.

The results for some additional non-academic factors showed an interesting pattern. These aspects were investigated via the student inventory questionnaire and was an attempt to ascertain what possible problem areas exist as perceived by students and which could impact on their academic success. It was completed only by the 2002 intake, and comprised 17 Indian and 39 black first year students. Obviously, the small numbers undermined a proper analysis. The results are tabulated in Tables 11 and 12.

Table 11
Perceived problem areas: 2002 intake

PROBLEM AREAS	Black %	Indian %
English comprehension	10,3	–
Too much work	18,0	11,8
Assignments	38,5	52,9
Understanding lectures	15,4	5,9
Tests	5,1	5,9
Other	12,7	23,5

Reference to Table 12 indicates that differences between the two groups are considerable in certain areas. As examples, the black students found that technikon life was different from their expectations, although they felt that they were well prepared for becoming a student. Although many felt the standard of work was too high, most felt they had enough time to keep up to date with their work. These statements are essentially contradictory.

There was considerable agreement that improved English and extra lectures could improve marks, but there appeared to be some concern about passing at the end of the year. Overall, the Indian group appeared to have a better appreciation of their position.

The open-ended questionnaire provided a wide range of responses.

A notable area of difference between the two groups was that of exposure to various media sources. Except for access to radio, the Indian group had consistently higher levels of exposure to media than their black counterparts. Exposure to media influences is considered a significant factor in improving English proficiency. The fact that the Indian group

outperformed the black group is perhaps understandable, given that they were significantly more urbanised and in better family circumstances than the black group (refer to Table 12). It is disturbing that 23,7% of blacks never read a newspaper and that 42,1% never/rarely read books. While both groups appeared to be avid TV/radio enthusiasts, the Indian group always used English as the medium of communication: the black group used both English and one of the vernacular languages.

TABLE 12
RESPONSE TO STUDENT INVENTORY QUESTIONNAIRE

Question		Black %	Indian %
3. Advice received on enrolling for this course		71,8	88,2
4. Technikon is different from expectations		64,1	47,1
5. Preparedness for becoming a student:			
	Well prepared	71,8	54,9
	Reasonably well prepared	23,1	45,1
	Unprepared	5,1	–
6. I would re-enrol for this course		74,4	82,4
11. Standard of work:			
	Too high	46,2	29,4
	About right	51,3	70,6
	Too low	2,6	–
12. I have enough time to keep up to date:			
	Totally agree	18,0	5,9
	Tend to agree	51,3	47,1
	Neither agree or disagree	12,8	17,7
	Tend to disagree	10,3	29,4
	Totally disagree	7,7	–
13. Need for extra lectures:	Yes	69,2	35,3
	No	30,8	64,7
14. Improved English will improve my marks:			
	Agree	71,8	17,7
	Neutral	23,1	70,6
	Disagree	5,1	11,8
15. Visit library:	Regularly	38,5	29,4
	For assignments	12,8	29,4
	Occasionally	45,6	41,2
	Never	5,1	–
17. Self-evaluated potential for passing year end exams:			
	All	41,0	94,1
	Most	46,1	5,9
	About half	12,8	
	Fail most	–	
	Fall all	–	
18. If I need help I can go to:	Lecturers	41,0	47,1
	Friends	20,5	29,4
	Family	25,6	17,7
	Don't need help	–	–
	No one	12,8	5,9

CONCLUSIONS

The hypothesis that English language proficiency has a significant impact on black student success rates appears to be substantially correct.

The Indian group consistently out-performed the black groups: the Indian English proficiency levels are consistently better than those of the black, as were their examination marks. On average, the Indians performed 20% better at matric and 40% better at technikon than did their black counterparts. The high performing Indian groups' profile relates well to the traditional selection criteria. With the black group, not only are they more diversified, but, as English second language students, they have a built-in disadvantage vis-à-vis their Indian contemporaries. It would appear that the black students tend to regard English as 'just another subject to be passed' and fail to recognise the centrality of high levels of English proficiency as a prerequisite for academic success. The student inventory clearly shows that the milieu in which these students exist is such as to provide little encouragement to improve English proficiency levels.

Most black students have significantly inferior matric entry points compared to their Indian counterparts: they start out with an academic deficit and, in most cases, a socio-economic deficit. However, the size of the deficit appears to be masked, firstly by the fact that nearly three-quarters take English as a second language, and secondly, that there appears to be a considerable difference between matric results and technikon marks. It could be that Jansen's (2003) comments pertaining to a decline in black matric standards could be pertinent, given that although the present groups of black students have slightly better matriculation symbols, they perform slightly worse than the 1996 group who obtained their matrics before the present 'tinkering' with marks began, thus allowing inferior students into the system.

As the present system cannot be allowed to continue, either the introduction of an appropriate English proficiency test such as the International English Language Testing System (IELTS) should be implemented or the entry requirements be radically revised.

REFERENCES

Amos, T.L. & Quinn, L. (1997). Management education and training: The role of integrated language development. *South African Journal of Higher Education*, *11* (1), 186–191.

Anstey, Gillian. (2003, August 24). Shame of S.A.'s university dropouts. *Sunday Times*, p. 12.

Badenhorst, F.D. Foster, D.H. & Lea, S.J. (1990). Factors affecting academic performance in first-year psychology at the University of Cape Town. *South African Journal of Higher Education*, 4 (1), 39-45.

Barker, D. (1988). Diagnostic tests and examination results. Assessment and Evaluation in Education, *Spring 13* (1), 1-15.

Barnard, F. (1997). Knowledge expectations in teaching. *South African Journal of Higher Education 11* (1), 79-84.

Barron, C. (1996, June 23). Academics too poor and too tired to keep up. *Sunday Times*, p. 7.

Bissetty, K. (2001, December 27). KZN matric results jump five percent over 2000. *Daily News*. Retrieved on July 25, 2002 from the World Wide Web: http://iol.co.za/general/newsview.php?art.id .

Bissetty, K. (2003, March 24). 35% of KZN teachers infected. *Mercury*, p. 3.

Blacquierie, A. (1989). Reading for survival: Text and the second language student. *South African Journal of Higher Education*, *3* (1), 73-81.

Blustein, D.L., Judd, T.P., Krom, J., Viniar, B., Padilla, E., Widermeyer, R. & Williams, D. (1986). Identifying predictors of academic performance of community college students. *Journal of College Student Personnel*, *27* (3), 242–249.

Bohlman, C.A. & Pretorius, E.J. (2002). *Research report on reading skills for mathematics*. ALRU, UNISA.

Coen, L.G., Reichgott, M. & Spencer, R.K. (1991). A performance-based method for early identification of medical students at a risk of developing academic problems. *Academic Medicine* 66 (8), 486-488

Committee of Technikon Principals (CTP) (1998). *Facts and figures. Education for the World of Work Brochure*. Private Bag X 680, Pretoria, 001

Craig, A.P. & Kernoff, R.J. (1995). Development of textual interpretation by under-prepared students. *South African Journal of Higher Education*, *9* (1), 23–29.

Cummins, J. (1980). The construct of language proficiency in bilingual education. *Georgetown University Round Table on Languages and Linguistics Washington*, pp. 81–103.

Cummins, J. (1984). *Bilingualism and special education: Issues in assessment & paedagogy*. Avon, U.K.: Multilingual Matters.

Dawes, P., Yeld, N. & Smith, M.J. (1999). Access, selection & admission to higher education: Maximising the use of the school leaving examination. *South African Journal of Higher Education*, *13* (3), 97–103.

De Villiers, J. & Rwigema, H. (1998). The effect of a bridging year on the graduation success of educationally disadvantaged commerce students. *South African Journal of Higher Education*, *12* (1), 103–108.

De Winter Hebron, C. (1991). Some aspects of cognitive and affective dimensions in cross-cultural education. *South African Journal of Higher Education*, *5* (1), 129–134.

Dunstan, L.V. & Frescura, M. (2001). *Academic difficulties experience by first-year psychology students at the University of the Western Cape.* Retrieved from the World Wide Web: http://www.ru.ac.za/academic/adc/papers/Dunstan%20andFrescura.html.

Examinations Committee of Technikon Natal (1998, September 16). Minutes of meeting. MIMEO.

Farnill, D. & Hayes, S. (1996). Do NESB university students with poor English skills make rapid linguistic gains in mainstream studies? *Higher Education Research & Development*, 15 (2), 261-264.

Ferreira, J.G. (1995). Transition from school to university. *South African Journal of Higher Education*, *9* (1), 154–159.

File, J. (1986). The politics of excellence: University education in the South African context. *Social Dynamics*, *12* (1), 26–42.

Financial Mail (2000, July 21). *Academic visibility: A case of don't publish and be damned*, pp. 44-45.

Fourie, C.M. & Naude-de Jager, S.J. (1992). Die identifiseering van risikostudente. *South African Journal of Higher Education*, 6 (3), 17–20.

Fraser, W.J. (1992). Common denominators for teacher training in a multi-cultural society. *South African Journal of Higher Education*, *6* (2), 103–108.

Goldstein, M. (2001). The senior aptitude test. Retrieved from the World Wide Web 21.04.2001on http://www.org.za/Sat.htm.

Goduka, I.N. (1996). Challenges to traditionally white universities: Affirming diversity in the curriculum. *South African Journal of Higher Education*, *10* (1), 27-35.

Govender, P. (1999, April 25). Shock AIDS test result at varsity. *Sunday Times*, p. 1.

Holder, G.M., Jones, J., Robinson, R.A. & Krass, I. (1999). Academic literary skills and progression rates amongst pharmacy students. *Higher Education Research & Development*, *18* (1), 19-29.

Huysamen, G.K. (1996). Fair and unbiased admission procedures for South African institutions of higher education. *South African Journal of Higher Education*, *10* (2), 199-207.

Huysamen, G.K. (1997). Potential ramifications of admission testing at South African Institutiona of higher education. *South African Journal of Higher Education*, *11* (1), 65-71.

Huysamen, G.K. (199). Psychometric explanations for the poor predict ability of the tertiary academic performance of educationally disadvantaged syudents. *South African Journal of Higer Education*, *10* (1), 205-208.

Huysamen, G.K. & Raubenheimer, J.E. (1999). Demographic-group differences in the prediction of tertiary-academic performance. S*outh African Journal of Higher Education*, *13* (1), 171-177.

Jackson (2000). Students' learning needs in an English language foundation course. Retrieved on April 21, 2001 from the World Wide Web: http://www.ru.ac.3/academic/adc/papers/jackson/html.

Jansen, J. (2003, January 3-9). On second thoughts. *Mail & Guardian*, p. 19.

Jiya, Z. (1993). Language difficulties of black BSC students. *South African Journal of Higher Education*, *7* (1), 80-88.

Johnes, J. & Taylor, J. (1989). Undergraduate non-completion rates: Differences between U.K. universities. *Higher Education*, 18, pp. 209– 225.

Johnson, G.M. & Buck, G.H. (1995). Students personal and academic attributions of university withdrawal. *Canadian Journal of Higher Education*, XXV (2), 53–77.

Jones, B. (1990). Use of non-academic factors to predict academic performance on freshman medical students. *College and University Year 65*, pp. 287–297.

Jordaan, J.J. (1995). Affirmative action: Excellence versus equity. *South African Journal of Higher Education*, *9* (1), 53 – 63.

Jordaan, W. & Jordaan, J. (1990) (2nd ed) *Man in context*. Johannesburg, Lexicon.

Jordaan, W. & Jordaan, J. (1998) (2nd ed) *People in context*. Johannesburg, Heinemann.

Kasanga, L.A. (1999). Lecturers' varying interpretating and expectations of students responses to writing prompts: A small scale study. *South African Journal of Higher Education*, *13* (3), 125–130.

Keating, B.R. (1987, October). Reducing classroom alienation: Applications from theory. *Teaching Sociology*, *15*, pp. 407 – 409.

Kilfoil, W. (1996). Academic support progarmmes: a review article. *South African Journal of Higher Education*, *10* (1), 205-208.

Kilfoil, W.R. (1999). The linguistic competence of science students. *South African Journal of Higher Education*, *13* (1), 46– 54.

King, J. (1995). Learning styles and absenteeism: Is there a connection? *Journal of the Freshman Year Experience*, *7* (1), 67– 82.

Laganparsad, M. & Morane, M. (2001, December 26) KZN pass rate up by 8 percent. *Mercury*. Retrieved from IOL on 25.07.2002: http//iol.co.za/general/newsview.php?art_id.

Lazenby, K. (1996). How to achieve mobility in South African higher education. *South African Journal of Higher Education*, *10* (2), 30–35.

Linn, R.L. (1990) Admissions Testing: Recommended uses, validity, differential prediction and coaching. *Applied Management in Education*, 3:4, pp. 297-318.

Loo, C.M. & Rolinson, G. (1986) Alienation of ethnic minority students at a predominantly white university. *Journal of Higher Education*, Vol 57 No.1, pp. 58–77.

Lyons, P.J. (1992) Education in South Africa: The impact of technology. *South African Journal of Higher Education*, 6 (1), 51–54.

Maluleke, J. (2002, January 29) Exodus from schools! *The Citizen*, p. 5.

Mavundla, T.R. & Motimele, M.P. (2002) *Issues of maltilingualism (sic) facing qualitative researchers when using focus group interviews as a research technique in a distance learning institution*. Mimeo: email mavundlAtsa.co.za.

Maxwell, M. (1998, September 23) Get ready for an academic shake up. *Scene: Technikon Natal Staff Newsletter*, *1* (7).

Meyer, J.H.F., Dunne, T.T. and Sass, A.R. (1995). Impressions of disadvantage: 1 – school versus university study orchestration and consequences for academic support. *South African Journal of Higher Education*, *24*, 291-316.

Miller, R. (1989). Conceptual issues in theorising about cognition. *South African Journal of Higher Education*, *3* (1), 154-159.

Miller, R. (1992) Double, double, toil and trouble: The problem of student selection. *South African Journal of Higher Education*, *6* (1), 98-104.

Miller, R. (1996). Mark my words Part I: Tecahers. *South African Journal of Higher Education*, *10* (2), 13-14.

Miller, R., Bradbury, J. & Wessels, S.L. (1997). Academic performance of first and second language students: Kinds of assessment. *South African Journal of Higher Education*, 11 (2), 70-79.

Mji, A. (1999) Understanding learning: A survey of undergraduate mathematics students. perceptions. *South African Journal of Higher Education*, *13* (3), 155-163.

Moulder, J. (1991) Remedial education programmes: Miracle or failure. *South African Journal of Higher Education*, *5* (1), 5-10.

Moulder, J. (1995). Universities and "Africanisation". *South African Journal of Higher Education*, *9* (1), 7-8.

Ngidi, T. (2002, January 18) Schools wilderness. *Sunday Tribune*, p. 5.

Nolte, L.; Heyns, P.M. & Venter, J.A. (1997) Building blocks for bridging programmes. *South African Journal of Higher Education*, 11 (1) 167-176.

Nyamapfene, K. & Letseka, M. (1995) Problems of learning among first year students in South African universities. *South African Journal of Higher Education*, *9* (1), 159-167

Oliver, L. (2003, January 12) Dean slams matric pass rate. *Sunday Tribune*, p.1.

Orr, M.H. (1995). Teaching writing at university: an academic literacy programme. *South African Journal of Higher Education*, *9* (2), 189-197.

Pantages, T.J. & Creedon, R. (1978). Studies in college attrition 1950-1975. *Review of Education Research*, *48* (1), 49-101.

Parsons, P.G. (1993) Students at risk. *South African Journal of Higher Education*, *7* (1), 24-32.

Pascarella, E.T., Teterenzini, P.T. & Wolfle, L.M. (1986) Orientation to college, and freshman year persistence and withdrawal decisions. *Journal of Higher Education*, *57* (2) (March/April), 155-173.

Paxton, M. (1995). Tutor responses to student writing. *South African Journal of Higher Education*, *9* (1), 189-198.

Pickworth, G. (2001) Developing an instrument to identify MBCHB students' approaches to learning. *South African Journal of Higher Education*, *15* (2), 140-145.

Potter, C & Van der Merwe, E. (1993) Academic performance in engineering. *South African Journal of Higher Education*, *7* (1), 33-40.

Pretorius, E.J. (2002) Reading ability and academic performance in South Africa: Are we fiddling while Rome is burning? *Language Matters*, 33, 169-196.

Ruth, D. (2000) Who are we teaching? A first year class at the University of the North. *South African Journal of Higher Education*, *14* (3), 186-195.

Shochet, I.M. (1994) The moderator effect of cognitive modifiability on a traditional under-graduate admissions test for disadvantaged black students in South Africa. *South African Journal of Psychology*, *24* (4), 208-215.

Skuy, M., Zolessi, S., Mentis, M., Fridjohn, P. & Cockroft, K. (1996) Selection of advantaged and disadvantaged south african students for university admission. *South African Journal of Higher Education*, *10* (1), 110–118.

Smit, A.J. (1991) Review of proceedings. *South African Journal of Higher Education Supplement*, *5* (1), 40-46.

Souter, C.W.; Archer, M. & Rochford, K. (1992) Literal and inferential reading and comprehension skills. *South African Journal of Higher Education*, *6* (3), 30-35.

Spady, W.G. (1971) Dropouts from higher education towards an empirical model. *Interchange*, *2* (3), 38-62.

Stage, F.K. & Williams, P.D. (1990) Students' motivation and changes in motivation during the first year of college. *Journal of College Student Development November*, *31*, 516-522.

Starfield, S. (1990) Science and language: A new look at some old issues. *South African Journal of Higher Education*, *4* (2), 84-89.

Starkey, A. (1998) *Interim report on the English language project*. (Internal mimeo) Technikon Natal.

Stevens, C.D. & Walker, B.M. (1996) How residential college students adjust socially and emotionally to first-year university. *Higher Education Research & Development*, *15* (2), 201-220.

Steward, R.J., Jackson, M.R. & Jackson, J.D. (1990) Alienation and interactional styles in a predominantly white environment: A study of successful black students. *Journal of College Student Development*. November, 31, 509-515.

Stuart, B. (1988, October 6). S.A. Students owe campuses R600m. *The Citizen*, p.1.

Taitz, L. (2000, July 9) Young, gifted and dead. *Sunday Times*, p. 1.

Tinto, V. (1997) Classrooms as communities. *Journal of Higher Education*, *68* (6), 599-623.

Van Dyk, P.J. & Van Dyk, A.C. (1993) Student achievement: A hierarchical classification as predictor. *South African Journal of Higher Education*, *7* (3), 239-245.

Van Eeden, R., de Beer, M. & Coetzee, C.H. (2001) Cognitive ability, learning potential and personality traits as predictors of academic achievement by engineering and other science and technology students. *South African Journal of Higher Education*, *15* (1), 171-179.

Van Overwalle, F. (1989) Success and failure of freshmen at universities – a search for determinants. *Higher Education*, 18, 287-308.

Vapi, X. (1998, June 6) Mandela comes down on students. *Saturday Star*. I.O.L. accessed 22.10.2003.

Vinke, A.A. & Jochems, W.M.G. (1993) English proficiency and academic success in international postgraduate education. *Higher Education*, *26*, 275-285.

Von Gruenewaldt, J.J. (1999) Achieving academic literacy in a second language: South African educational predi-cament. *South African Journal of Higher Education*, *13* (1), 205-211.

Wallace, B. & Adams, H.B. (1989) Assessment and development of potential of high school pupils in the third-world context of Kwazulu Natal. *South African Journal of Higher Education*, *3* (1), 83–94.

Welman, Johannes Christiaan. (Doctor Litterarum et Philosophiae in Sielkunde in die Faculteit Lettere en Wysbegeerte and die Randse Afrikaanse Universiteit). (2000). *Die afstandsonderriggereedheid van technikonstudente*.

Wood, T. (1997) Revisiting language in education: The semantics of understanding. *South African Journal of Higher Education*, *11* (1), 41-47.

Zaaiman, H., van der Flier, H. & Thys, G.D. (1998) Selecting South African higher education students: Critical issues and proposed solutions. *South African Journal of Higher Education*, *12* (3), 96-101.