Equity in changing patterns of enrolment, in learner retention and success at the Cape Technikon

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Abstract

This article will show that whilst there has been much progress in opening up access for black students to higher education, this has not involved equity of opportunity for black students to enrol for programmes that will enhance employment opportunities and upward social mobility. In addition, opening up access has not always been accompanied by strategies to provide adequate and appropriate forms of support for all students.

The article is divided into three sections: The first analyses the extent to which equity of access has been achieved within the Cape Technikon. The second describes an investigation into factors impacting on learner performance, which was undertaken by the Cape Technikon during 2001. The third sets out the key findings of this investigation.

This article illustrates that many Higher Education Institutions (HEIs) have adopted new sets of core values, which they believe should underpin the philosophy and activities of their institutions. However, changing the ethos of the institutions in line with the newly adopted core values in a way that they impact fundamentally on the curriculum and the scholarship of the institution clearly remains a basic challenge. This article highlights the need to address the kind of knowledge and skills that staff need in order to design and deliver transformed curricula whilst designing and implementing comprehensive integrated learner centred support strategies to ensure learner success and retention.

THE CHANGING STUDENT PROFILE OF THE CAPE TECHNIKON

Background

Cooper and Subotzky (2001) have suggested that a revolution in African enrolments at HEIs occurred in the decade from 1988 and 1998. This revolution involved a huge increase in the absolute numbers of African students in higher education as well as a shift in the proportion of African students at historically white institutions. There has also been a significant increase in the absolute number of female students across all population groups.

These patterns are evident in the dramatic increase in African enrolments from 108 in 1993 to 3 457 in 2001. As a proportion of the total student population African enrolments increased from 01.2 per cent to 27.6 per cent.
In contrast to the dramatic increase in the number of African students there was a steady increase in the number of female students, from 3595 in 1996 to 6 026 in 2001, or from 37.1 per cent to 48.14 per cent of the student population.

In trying to explain the dramatic increases in African enrolments, Cooper and Subotzky have argued that the policies and practices of individual universities and technikons were not the most important causal factor. They have suggested that the Africanisation of higher education is centrally associated with the making of an African middle class in South Africa – a process that was accelerated after 1994. The social process, they argue, was primarily a function of the increased demand for higher education because of its perceived value in improving the life chances of graduates. In their view the dramatic changes were not a result of the national goals for higher education.

Cooper and Subotzky are probably correct in their contention that the overall increases in African enrolments in the period from 1994 to 1998 are primarily due to the choices made by African students themselves, rather than the result of the active recruitment of African students on the part of HEIs, or the introduction of new institutional policies. However, they fail to provide an account of how institutions are attempting to deal with the challenge of redressing imbalances in enrolments. In the absence of such an analysis it is not possible to draw conclusions about the main drivers of change at institutional level. A brief description of the processes at the Cape Technikon in fact points to a much more crucial role for institutional policies and processes when redressing imbalances in participation rates of African students, as opposed to just increasing the number of African students in HEIs.

Under-representation of African students in certain programmes and at certain qualification levels

The analysis of trends at the Cape Technikon confirms Cooper and Subotzky’s argument that a true picture of the changes in enrolment patterns requires an analysis of the programmes and levels for which African students have registered.

In line with the Cape Technikon’s commitment to redressing past imbalances in enrolment patterns in terms of race, the Technikon set enrolment targets based on an analysis of the overall Western Cape demographics (see Table 1) The overall population demographics was used as an indicative benchmark for determining appropriate representivity profiles.

Table 2 clearly illustrates that African students are still under-represented in certain fields in the SET and in the Business and Commerce categories as well as in some disciplines in the Humanities. Coloured students in the ND programmes were under-represented in all the programmes offered in the faculties of Education, Business Informatics, Engineering and Built Environment and Design, and were only demographically representative in one programme in the Faculty of Applied...
Sciences. Attempts to redress these imbalances through targeted marketing and recruitment strategies are described in the section on ‘Key role for institutions in redressing imbalances in participation rates’.

**Under-representation of African students in programmes aimed at growth sectors of the economy**

A major challenge that faces institutions is to ensure that in opening up access to African students there is equity of opportunity when providing access to education and training programmes which are demand led and that enable graduates to exit with a skills profile that matches current employment demand trends. As Cooper and Subotsky suggest, the term ‘revolution’ in regard to African higher education enrolments can only be justifiably used once past imbalances in enrolment patterns are addressed and when African graduates are gaining equal access to jobs in growth sectors in the economy.

This is of concern in the light of Bhorat and Lundall’s study (2002), which suggests that whilst the growth rate for Africans seeking employment between 1995 and 1999 was higher than that of whites, ‘the labour market absorption rate tells a very different story . . . [because] employment was generated for only 28.74 per cent of all new African entrants into the labour market, relative to 74.69 per cent of all White new entrants’ (insertion in brackets by the author of this article). The study by these authors also show that whilst the number of African graduates in this period grew, the ‘demand for tertiary-educated African workers declined by about 77 000 representing an 11.8 per cent fall in employment levels for these graduates’. In contrast, the demand for non-African employment grew by 10 per cent. According to these researchers, the key reason for this decline in African degreed employment appears to be the restructuring of the public sector. However, they also suggest (2002, 3) that the degreed African workers ‘have been, and are continuing to, accumulate human capital in fields of expertise not in demand by employers’.

Analysis of the statistics per programme in Table 2 confirms that the proportion of African students in programmes related to current or targets growth areas of the economy such as Financial Information systems, Jewellery Design and Manufacturing, Graphic Design and Information Technology remained way below the target of 21.56 per cent Africans.

**Key role for institutions in redressing imbalances in participation rates**

Redressing imbalances in African student enrolments in SET and Business & Commerce programmes can only be done through targeted marketing programmes, the provision of foundation programmes and adjustments to entrance requirements. This necessitates changes in institutional policies and the political will of senior leadership in HEIs. Evidence to substantiate this stand is provided by an analysis
of the reasons for progress made in increasing the number of African students in programmes where they had been grossly under-represented at the Cape Technikon.

During the course of 2001, special emphasis was placed on recruiting black students for Hospitality and Tourism courses and for the Design disciplines. In addition, a project team was set up to identify barriers to access in these programmes in particular and others generally. This resulted in increased numbers of black students for these programmes. The most significant improvement in black enrolments was seen in the faculties of Applied Sciences and Management whose two newly appointed black deans paid particular attention to ensuring that more black students were admitted to targeted programmes.
As regards the level of qualifications for which students had enrolled, the analysis of statistics for the Cape Technikon confirms Cooper and Subotzky’s argument that Africanisation did not occur at the post-diplomate level in the period 1995–2001 as African students only constituted 20 per cent of the post-diplomate enrolments in 2001 while whites were still overwhelming in the majority, that is 57 per cent of post-diplomate enrolments. Females constituted 53 per cent of the post-diplomate enrolments (see Table 3 below). Hence there is not yet equity of opportunities for black students to progress to post-graduate degrees.

Table 3: Enrolments in post-diploma programmes at the Cape Technikon 2001

<table>
<thead>
<tr>
<th>Programme</th>
<th>African</th>
<th>Coloured</th>
<th>Indian</th>
<th>White</th>
<th>Female Total</th>
<th>African</th>
<th>Coloured</th>
<th>Indian</th>
<th>White</th>
<th>Male Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>B Tech</td>
<td>214</td>
<td>189</td>
<td>20</td>
<td>545</td>
<td>968</td>
<td>139</td>
<td>187</td>
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<td>474</td>
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</tr>
<tr>
<td>M Tech</td>
<td>11</td>
<td>5</td>
<td>1</td>
<td>24</td>
<td>41</td>
<td>20</td>
<td>17</td>
<td>0</td>
<td>40</td>
<td>77</td>
</tr>
<tr>
<td>D Tech</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
<td>195</td>
<td>21</td>
<td>570</td>
<td>1 011</td>
<td>160</td>
<td>206</td>
<td>18</td>
<td>523</td>
<td>907</td>
</tr>
</tbody>
</table>

Challenges regarding equity of outcomes

Whilst the numbers of black students were increasing, the graduation rate for black students has been steadily declining. Between 2000 and 2001 the total number of black students across all levels increased by 1 066 (from 6 040 in 2000 to 7 106 in 2001, that is 17.65 per cent), but the number of black students awarded qualifications in 2001 increased by only 136 students (from 898 in 2000 to 1 034 in 2001, i.e. 15.15 per cent). At the same time, the graduation rate for black students decreased by 0.3 per cent and 1.04 per cent for African students. White post-graduate enrolments constituted 31 per cent of the total number of post-diplomates, but 54 per cent of the total graduates. The graduation rate for female students decreased by 0.55 per cent – females constituted 52 per cent of the post-diplomate enrolments, but 48 per cent of the graduates. These figures illustrate major inequalities in equity of outcomes along racial lines, but no serious gender imbalances. Concern at the Cape Technikon about the lack of equity of outcomes was exacerbated by the significant increase from 2 129 students in 2000 to 2 973 in 2001 in the total number of all students that dropped out.

These trends reflect international experiences of the effect of massification when opening up access was not accompanied by increased levels of support to ensure success and retention. This led Yorke (1999) to contend that the corollary of widening participation is often an increasing risk of non-completion, creating a tension between one aspect of governmental policy (access) with another (reducing public spending), producing higher dropout rates and declining throughput rates. In 2001, only the Faculty of Education at the Cape Technikon had a graduation rate above the national benchmark of 25 per cent and the Faculty of Built Environment
and Design had a graduation rate (24.59 per cent) almost equal to the benchmark. The two faculties with the highest percentage of black enrolments had overall graduation rates below 20 per cent.

In summary, the summary of key trends with regard to enrolment and graduation patterns at UCT illustrates that opening up access for African students has happened unevenly within the Technikon. Significant changes have taken place only where there have been targeted intervention strategies such as focused marketing. In addition, the proportional increase in African enrolments has not been accompanied by an equivalent increase in the proportion of African graduates suggesting the need for an interrogation of the impact of the institutional culture on equity of access and equity of outcomes.

THE IMPACT OF INSTITUTIONAL CULTURE ON LEARNER PERFORMANCE

Background

In 2001, the Cape Technikon adopted a Strategic Framework and a new set of core values which placed a stronger emphasis on the need for redress and a commitment to creating and nurturing an institutional culture which promotes equity of opportunity for all students and staff. Hence, the Technikon decided to initiate a study of factors that might be impacting on learner performance.

Learner performance

In May 2001, the Department of Institutional Research and Transformation (IRT), the Teaching and Learning Centre (TLC), and the Transformation Manager commenced work on a project to identify factors impacting on learner performance so that appropriate intervention strategies could be put in place in order to address any problems identified.4

In determining the approach to the project design, the team overseeing the study was influenced by international retention studies, which have shown that the quality of student experiences in HEIs is one of the key determinants in retention. As Tinto, a prominent researcher on retention, has stated (Yorke 2001, 121) ‘a student who is integrated into the institution both academically and socially will, other things being equal, be more likely to persist with study than a student whose academic and/or social integration is less well developed’. Lecturers involved in various kinds of academic development programmes have stressed the importance of the social environment to the need for institutional, community, and personal partnerships (Moxley et al. 2001). In the South African context where black students, many of whom came from working class backgrounds, were enrolling at historically white institutions with Afrikaans or English as the medium of instruction, the impact of the institutional environment was likely to be even greater. As research conducted at the University of Witwatersrand showed (Ngqakayii-Motaung 1996, 74) that ‘the structural context of achievement is
biased against black students since black students in white . . . [institutions] study and perform alongside students whose racial and class status places them at a considerable advantage in generating resources (linguistic, material and psychological) that facilitate success . . . [at higher education institutions]’ (insertions in square brackets by the author of this article).

**Major aim of the Cape Technikon study**

The major aim of the study was to develop an understanding of staff and student perceptions of the learning environment and how these perceptions might impact on learner performance.

**Methodology**

*Questionnaires*

Questionnaires were selected as the research instrument for collecting the necessary data on the teaching and learning context, the quality of student experiences, access and utilisation of student support services, levels of satisfaction with institutional facilities and the social environment within which students study, and the perceptions of the importance of other factors such as finance on learner performance. Separate but aligned questionnaires were designed for academic staff and students, respectively. (See also Appendix Two for a summary of the item categories contained in the questionnaires.)

Open-ended questions were included in both types of questionnaires to provide respondents with an opportunity for additional comments. In addition, respondents were required to indicate on a scale of 1 (not at all) to 5 (definitely) the degree of agreement with each given statement.

After pilot questionnaires had been prepared, two focus groups were convened to explore the issues involved. One focus group was held with students from the Faculty of Built Environment and Design; another one was conducted with academic staff from the Faculty of Management. After these focus group sessions, the pilot questionnaires were revised to reflect relevant inputs.

**Sampling**

- **Students**

A statistical table, developed by Krejcie and Morgan (1970), for determining the sample size required to be representative of a given population was used to determine the student sample size for the given population (first-year students) at an aggregate level as well as in proportion to the size of each faculty. A statistical software package (*Survey Tracker Viewer*) was used to capture the data. The given overall population for first-year students studying at the Cape Technikon in 2001 comprised 4 434 students. According to the statistical table
used, based on a confidence level of 95 per cent accuracy, it was necessary to target a sample of 2 775 first-year students as an efficient method of determining a representative sample size of the given population of first-year students. The sample was weighted to reflect proportional enrolments in each faculty. Some second-year students enrolled for academically first-year subjects were included in the sample of first-year students because they were studying first-year subjects. The questionnaires were distributed to the targeted respondents in the lecture rooms in order to increase the response rate. Lecturing staff assisted with the distribution of these questionnaires in each faculty and were requested to allow the students to complete the questionnaires in these lecturing periods.

All third-year students in 2001 were sent questionnaires through the mail to increase the size of the overall pool. (See Appendix One for the Profiles of Respondents.)

- **Staff**

The staff questionnaire was sent by internal mail to all academic staff, excluding those in senior and executive management positions. Given the lack of representivity of academic staff at the Technikon, the staff composition does not permit the sample to reflect national demographics. (See also Appendix One for the Profiles of Respondents.)

**Processing and analysis**

The mean scores for responses to each statement were calculated; mean scores above 4 were taken as excellent, above 3.20 as positive, above 2.50 as negative or requiring development and below 2.00 as extremely negative or critical.

A statistical analysis was carried out in order to determine:

- The frequencies and means for the responses to each questionnaire item.
- The standard deviation for the distribution of responses to each questionnaire item.
- A comparison of any significant differences between two groups by applying a T-test.
- Any significant differences between three or more groups by applying the Annova test. This was done for the variables of race, gender, language and year of study. The section below features some examples of where the mean of African students’ responses differed significantly from the mean of the total sample population.
Response rate

In total, 1,144 completed and useable student questionnaires and 91 completed and useable lecturing staff questionnaires were received (a response rate of 26 per cent of the first year sample and 28.3 per cent, respectively. 425 responses were received from third year students.

FACTORS RELATING TO LEARNER PERFORMANCE AT THE CAPE TECHNikon

Introduction

Generally, the responses to the two questionnaires seem to confirm the notion that deepening equity in higher education will necessitate developing the capacity of HEIs to accommodate a diverse range of learning needs in order to redress present imbalances in enrolment patterns. Different race groups among students on campus are experiencing the Technikon differently, and their experiences seem to suggest that as a group African students are the least integrated socially and the least able to access adequate forms of support from the lecturers and elsewhere within the institution. Students perceive the absence of integration and attention to diverse needs and experiences as a major factor impacting on their performance.

Student perceptions of factors impacting favourable on student performance

On the basis of the student responses the main factors that the majority of students perceived as positively enhancing their performance were categorised as:

(1) The language of tuition for the students
(2) Happiness with the social environment, particularly with regard to support of peers and relationships with lecturing staff
(3) Appropriate levels of support to address problems and difficulties
(4) The accommodation of different cultural experiences in the learning context and the degree of resonance of the curriculum with the personal experiences of learners
(5) Acceptance into programme of choice
(6) The organisation of the curriculum, including the integration of theory and practice and the structuring of lectures
(7) The quality of the teaching
(8) Technology, the availability of lecturing staff for student support, the nature of feedback received on performance

Analysis of variations in responses

Analysis of the responses by race, gender and language revealed significant variances in the way in which African students experienced the first 5 factors.
Satisfaction with the language of tuition
This study highlighted that fewer African students feel that lecturers consider their educational background and their financial situation. This is in contrast with the perception of English-speaking white students, who feel that lecturers do consider their educational background and their home language. Afrikaans students feel that lecturers consider their educational background whereas speakers of languages other than English and Afrikaans were very negative about how lecturers accommodated their first languages.

Happiness with the social environment
African students’ perceptions of their relationships with their lecturers were less positive than the overall mean: ‘I have a good relationship with the lecturer’ (overall mean = 3.65 versus mean for Africans of 3.33 and Indians of 3.55).

Happiness with the level of support provided
African students’ perceptions of the level of support provided were significantly below the overall mean. ‘I feel my specific problems and difficulties are addressed’ (overall mean = 3.20 versus mean for Africans of 2.88)

The accommodation of different cultural experiences
There were also significant variances with regard to perceptions of the impact of the values of equity and redress on learner performance, with black students feeling that these have a positive impact on learner performance and white students feeling that they do not. A higher percentage of African students felt that the lecturers were not guided by these values in their approach to teaching. They also didn’t feel that the lecturers had a good understanding of their culture: ‘I feel the lecturer understands my culture’ (overall mean = 3.64 versus mean for Africans of 3.25 and Indians of 3.24)

African students also felt more strongly (see the mean for responses to the statements below) than other groups that the following matters needed to be addressed urgently: racial, language, and religious discrimination.

- Religious discrimination (overall mean = 1.93; mean for Africans = 2.61)
- Racial composition of staff (overall mean = 2.20; mean for Africans = 3.36)
- Racial discrimination (overall mean = 2.47; mean for Africans = 3.92)
- Language discrimination (overall mean = 2.74; mean for Africans = 3.91)

This suggests that the more negative perceptions of African students of their relationships with the lecturers, the level of support they were receiving to address their particular learning needs, the support from fellow students and an appreciation of their cultural backgrounds may be contributing to differential performance rates.
Acceptance into programme of choice

As regards equity of access there was an exceptionally high mean score in the responses among students, indicating that the main factor influencing their choice of programme was their choice of career. However, there was a significant variance regarding the response of Xhosa students, who indicated that the programme of their first choice was full, or they had not met its minimum entrance requirements. This variance is significant because research has highlighted (Yorke 1999) that misaligned enrolment with a programme has a major impact on poor student retention. Admitting students to programmes that were not their first choice – a practice that is widespread in higher education (HE) – may inflate the numbers of black students but may also be having a significant impact on drop-out rates.

Staff perceptions of the factors students identified as positively impacting on learner performance

Satisfaction with the language of tuition

Most staff acknowledged that students benefit from being able to explain and ask questions in their own language, although the students’ responses suggest that staff are not effectively translating this into their teaching and learning practices.

Level of support provided

There was a much stronger emphasis on the deficiencies of the students as a result of their educational background in explaining problems with the performance of black learners rather than on the nature of support provided by the institution. There is a correlation between the responses of staff and students in the finding that students do not appear to be making use of the range of support services being provided.

- Lecturers (mean = 4.20)
- Fellow students (mean = 3.87)
- A tutor (mean = 3.54)
- Student counseling (mean = 2.71)
- Family members (mean = 2.67)
- Writing centre (mean = 2.61)
- Foundation courses/extended curriculum (mean = 2.58)
- Career guidance (mean = 2.55)
- Administration of the department (mean = 2.39).

The reasons for this need to be further investigated but the results suggest that either the students are not aware of the range of support being provided and are
therefore not making use of these services, or that the forms of support are not sufficiently tailored to meet students’ particular needs and are therefore not being utilised.

**The accommodation of different cultural experiences**

The responses to the statements seem to suggest that staff find it fairer to deny the impact of race, class and gender in teaching methods rather than actively engage with the implications of diversity. (The higher the mean score, given in brackets after each item, the more conscious the lecturers are of the particular factor.)

- The students’ educational background (mean = 3.70)
- The language of instruction (mean = 3.53)
- My home language as a lecturer (mean = 3.11)
- The students’ own home language (mean = 3.11)
- The family background of the student (2.95)
- The religion of the students (mean = 2.26)
- The race of the students (mean = 2.16)
- The gender of the students (mean = 2.09).

Staff also didn’t regard discrimination as one of the urgent issues which the Technikon needed to address. The staff did, however, recognise that they need diversity training and they need to learn how to manage diversity issues in their classrooms. (The lower the mean score the more urgent the issue was perceived.)

- Religious discrimination (mean = 4.08)
- Gender discrimination (mean = 3.45)
- Economic/class/financial discrimination (mean = 3.39)
- Racial discrimination (mean = 3.36)
- Gender composition of staff (mean = 3.30)
- Racial composition of staff (mean = 3.09)
- Language discrimination (mean = 3.01)
- Management of diversity (mean = 2.71)
- Diversity training for all staff (mean = 2.42)
- Adequate teaching resources (mean = 2.02).

**Conclusions and Summary**

The perceptions of African students regarding the impact of the values of equity and redress resonate with other studies which have highlighted the negative impact on black students or a bias towards theory in the structure of the curriculum, the lack of awareness of the impact of different backgrounds on class activity, indifference to the particular needs of black students, and the exclusive utilisation of white students’ cultural experiences in the teaching situation (Ngqakayi-Motaung 1996).
The findings suggest that white students, whose graduate rates are much higher than those of black students, feel socially more accepted than black students and believe that they have good relationships with lecturers. Retention research indicates that the more students interact with other students and the faculty, the better they are likely to perform; the more students see those interactions as positive and themselves as integrated into the institution, and as valued members of it (i.e. validated), the more likely it is that they will perform better and not drop out (Tinto 1998).

The results of the student survey suggest that the different race groups on campus are experiencing the Technikon differently, with African students appearing to be the least integrated. There is also evidence of the fact that African students perceive lecturers as insensitive to the impact of different backgrounds and cultures on participation in class activities, and the particular needs of black students. If these perceptions are compared with the list of factors that students feel have a positive impact on the performance of learners, there is evidence of a need for the Cape Technikon staff, in collaboration with black students, to develop support strategies that will facilitate opportunities for equitable participation in the teaching and learning situation. These strategies should be oriented towards building the capacity of the system to accommodate a diverse range of learning needs. According to Howell (2002), this will entail moving away ‘from categorising learners and institutional practices that respond to perceived needs within such categories to a ... (focus on developing) the capacity of the system to accommodate the full range of diverse learning needs, irrespective of the “category” into which the learner fits’. To do this, institutions would need to

- make a commitment to addressing retention and improving learner performance;
- improve the way in which academic curricula are organised, delivered and assessed;
- the development of appropriate learning support systems;
- the improvement of staff-student relationships, changing the racial composition of staff to ensure that students are exposed to black role models, and
- the provision of ongoing advice and counselling to students especially during their first year of study.

The importance of recognising that effective learning is more likely to take place when the curriculum is learner-centred and hence organised around the needs and experiences of learners is a key principle of progressive andragogy. As Giroux (quoted in Ngqakayii-Motaung 1996, 96) has said: ‘In the most general sense, any approach to knowledge aimed at these (working class) students must take seriously the concepts of work, class [race] and gender. Knowledge for working class [and black] student must illuminate the themes that dominate their lives through the use of pedagogical approaches that contribute simultaneously to the awakening of their political consciousness’ (insertions in square brackets by the author of this article).
Writers such as Moxley, Tinto, and Simpson have suggested (Moxley et al. 2001) that if retention of students has been identified as an institutional priority then the ‘essence of keeping students in higher education lies in offering the students a set of personal relationships on – and off – campus that helps them address the issues they face’. According to Tinto and others, institutions need to establish a formal retention programme aimed at retaining students in higher education and enabling success. He and others such as Simpson, Yorke and Moxley advocate the reorganisation of the curriculum into learning communities which enable the students to share across the curriculum and construct a shared, coherent education experience and establishing supportive peer groups at the onset of the HE experience. These learning communities (peer groups) should meet as frequently as possible during the first year of registration at an HEI to provide students with opportunities to spend time together inside and outside the class and so provide academic and social support. In this way the first year can be reorganised to promote persistence. More African students were positive about getting involved in non-academic activities organised by the Technikon. This is perhaps indicative of the potential impact of using non-academic activities to integrate African students more into the life of the institution.

The reasons for this need to be further investigated but the results suggest that either the students are not aware of the range of support being provided and are therefore not making use of these services, or that the forms of support are not sufficiently tailored to meet students’ particular needs and are therefore not being utilised. In fact there was significant variation between African students and the rest of the sample regarding their assessment of how effectively their individual problems and difficulties were being addressed. Hence the results indicate the need to examine how learner-centred forms of support can be extended to more students to ensure retention and success.

The aim of these strategies would be to overcome inequalities for black students and women and eliminate factors that threaten retention and impede satisfactory learner performance.

**NOTES**

1. This article is based on statistics from the Cape Technikon and an investigation into factors impacting on learner performance at this institution in 2001. The project team involved in this research consisted of Director: Institutional Planning and Transformation, Director: Teaching and Learning Centre, Transformation Manager, and the Institutional Researcher.
2. Field of Science, Engineering and Technology.
3. Graduation rate: calculated as the number of graduates for a given programme in a reporting year, divided by the total number of enrolments for that programme in the same reporting year multiplied by 100 to arrive at a percentage as per the Department of Education’s definition.
4. The project team consisted of Ms J. Favish and Ms D. Richter (IRT), Mr S. Henkeman (Transformation Manager) and Dr N. Tisani (TLC). This team felt the need for obtaining the
assistance of independent consultants to undertake the processing and interpretation of data relating to the study, and Limani Consulting, Organisational Diagnostics and Peterson Consulting Group were contracted for this purpose.

BIBLIOGRAPHY


APPENDIX ONE

Profile of respondents (staff and students)

- In total, 1 144 completed, useable questionnaires were received from students, giving a 41.2 per cent response rate. In total, 91 completed, useable questionnaires were received from lecturing staff, giving a 28.3 per cent response rate. All data was captured and processed by computer, using the ‘Survey Tracker Viewer’ statistical software package. A summary of responses follows in Table 4 and Table 5 below.

Table 4: Characteristics of the sample frame for this research.

<table>
<thead>
<tr>
<th>Overall Profile</th>
<th>Staff</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Division</td>
<td>Targeted group in the sample</td>
<td>Analysed responses</td>
</tr>
<tr>
<td>Applied sciences</td>
<td>49</td>
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</tr>
<tr>
<td>Built environment &amp; Design</td>
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</tr>
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<td>Incomplete</td>
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<tr>
<td>Total</td>
<td>321</td>
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Table 5: Year of study (n 1148)

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<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percentage</th>
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<tr>
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<td>140</td>
<td>12.2</td>
</tr>
<tr>
<td>Academic: First year*</td>
<td>500</td>
<td>43.6</td>
</tr>
<tr>
<td>Academic: Second year</td>
<td>83</td>
<td>7.2</td>
</tr>
<tr>
<td>Academic: Third year</td>
<td>425</td>
<td>37.0</td>
</tr>
<tr>
<td>Total</td>
<td>1 148</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Includes all first year students not just first time entering students.

Profile of staff respondents

- Gender and Race
  The predominant group of respondents in the staff sample was male 59.6 per cent (56); the rest of the sample (40.4 per cent or 38) female. In terms of race, 85.7 per cent (78)
were white and 14.3 per cent (13) Coloured. No response was received from the Indian and African race groups.

- **Years of service**
  Only 2.1 per cent (2) of the staff pool had less than one year’s service; 28.4 per cent (27) had more than 15 years’ service, and 28.4 per cent (27) had between 6–10 years’ service.

- **Home language**
  41 (43.2 per cent) use English as their home language and 51 (53.7 per cent) Afrikaans.

- **Faculty**
  The percentage and number of respondents per faculty were as follows: Faculty of Applied Sciences 26.4 per cent (24), Faculty of Management 21.9 per cent (20), Faculty of Engineering 18.7 per cent (17), Faculty of Built Environment and Design 16.5 per cent (15), Faculty of Business Informatics 12.1 per cent (11), and Faculty of Education 4.4 per cent (4).

**Profile of student respondents**

- **Age groups**
  Respondents were predominantly (87.6 per cent or 1009) under 25 years of age; the rest (12.4 per cent or 143) were over 25 years.

- **Gender and Race**
  Of the respondents, 55.3 per cent (638) were female and the rest (44.7 per cent or 515) male. The race composition of the sample was 22.1 per cent (249) African, 28.0 per cent (315) Coloured, 2.3 per cent (26) Indian, and 47.6 per cent (536) white.

- **Years of study**
  The majority of students in the sample came from the ranks of first years (43.6 per cent or 500); 7.2 per cent (83) were second years, and 37.0 per cent (425) were third years.

- **Home language**
  Of the respondents, 41.9 per cent (481) were English, 36.4 per cent (418) Afrikaans, and 13.2 per cent (151) Xhosa.

- **Faculty of origin for students:**
  The respondents per faculty were as follows: Faculty of Management 34.7 per cent (397), Faculty of Engineering 23.7 per cent (271), Faculty of Applied Sciences 19.5 per cent (223), Faculty of Business Informatics 10.4 per cent (119), Faculty of Education 9.1 per cent (104), and the Faculty of Built Environment and Design 2.6 per cent (30).

- **Dwelling place over the past five years:**
  The majority of respondents came from urban areas. A total of 80.5 per cent (915) were staying in a house, while 2.9 per cent (33) came from informal settlements.

- **University exemption and matriculation aggregate results**
Of the respondents, 55.6 per cent (634) had obtained a university exemption, while 44.4 per cent (506) had not. (Refer to Table 7 below for overall results obtained by respondents before entering the Technikon).

**Table 6: Overall Matriculation Results**

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>49</td>
<td>4.3</td>
</tr>
<tr>
<td>B</td>
<td>235</td>
<td>20.8</td>
</tr>
<tr>
<td>C</td>
<td>504</td>
<td>44.6</td>
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<td>D</td>
<td>282</td>
<td>25.0</td>
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<td>55</td>
<td>4.9</td>
</tr>
<tr>
<td>F</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>1129</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**APPENDIX TWO**

Categories of statements in the questionnaires

**Staff Questionnaire**

- Lecturers’ experience of the nature of classes
- Attitudes to interactive teaching/learning
- Statements that influence the structure and planning of lectures
- Lecture support offered to students
- Modes used to support teaching
- Factors that influenced students’ choice of subjects
- Support structures used by students for problems with learning
- Factors that need improvement in lecturing
- Relationships with students
- Current institutional culture of the Cape Technikon
- Aspects that the Cape Technikon needs to address urgently
- Factors that lecturers are conscious of during lectures
- Factors that influenced lecturers’ choice of career
- General staff support

**Student questionnaire**

- Factors that influenced choice of subjects
- Reasons for good performance in certain subjects
- Support structures used when experiencing learning problems
- Factors considered by lecturers during lectures
- Factors that help to improve learner performance
- Attitudes to group work
- Influence of the Cape Technikon’s core values on performance
- Aspects that the Cape Technikon needs to address urgently