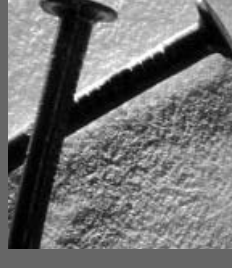

Chapter 3: Graduate tracer study

Michael Cosser

Introduction

The conceptualisation of the tracer study of technical college graduates[1] reported in this chapter preceded the work of the National Landscape Task Team that led to the recommendation that 151 colleges be merged into 50 (DoE 2001a), though the tracer study and Task Team investigations were conducted concurrently. Besides the need to speak of 'technical colleges' rather than 'FET colleges' that this precedence implies, however, a key difference between the two investigations is that while *institutions* came under the spotlight of the Task Team, the unit of analysis in the tracer study is not the institution but the *learner*. The population to which the findings of the tracer study can be generalised, then, is those graduates of 151 technical colleges who achieved an N2, N3 or National Senior Certificate (NSC) in 1999. In this sense, institutional responsiveness is viewed through the lens of graduate perceptions of their college experience and the extent to which it has prepared them for entry into the labour market.

This chapter reports on the key findings of the graduate tracer study under three broad headings. The first briefly profiles the 3 503 respondents in terms of their biographies, highlighting such variables as province, population group, gender, age and parental/guardian education levels. The second extends this profile to a consideration of respondents' college education and employment status, focusing in the first part on the qualifications of graduates, including the fields in which they achieved their college certificates, and in the second juxtaposing these with their current employment situations and their employment experience between 1999 and late 2001. The third adds a new dimension to the analysis. It considers the quasi-behavioural evidence regarding respondents' experience of their college education: language of learning; the provision of career guidance; work experience during college studies; and first employment experiences. Moreover, it interweaves these quasi-behavioural aspects with an analysis of respondents' attitudes regarding their college education. These include:

- Why they chose to study at a technical college and their reasons for choosing one college over another.
- How the language of learning at the college affected their academic performance.
- How they rate the quality of college provision; and for those who found employment, whether they were satisfied in their jobs.
- Whether they would make the same study choices if given a second chance.

The distinction implied here between *behaviour*, a supposedly objective phenomenon that can be scientifically verified, *quasi-behaviour*, a behaviour the verification of which may not accord with objective reality because it is actually a *perceived* behaviour, and *attitude*, a perception purely in the mind of the beholder, is difficult to sustain in the context of a tracer study. Notionally these phenomena exist on a continuum, at one pole of which is objective reality and at the other subjective opinion. But what in a tracer

1 The use of 'graduates' to denote those learners who have achieved an N2, N3 or NSC certificate at a technical college is problematic, since it implies the achievement of a qualification signalling a milestone in a learner's study trajectory – when in fact most technical college learners, the study will show, go on to achieve qualifications higher than N3/NSC. 'College leavers' would be inaccurate for the same reason. A more accurate term would be 'certificated learners'; while 'learners' resonates with 'lifelong learning', suggesting that the N2/N3/NSC certificate achiever is on a learning path that by no means ends with the achievement of a Grade 11- or a Grade 12-equivalent certificate, the qualification 'certificated' denotes precisely those learners who have achieved a certificate. But in the interests of elegance, 'graduates' is the preferred term – suggesting as it does a graduation from the achievement of an N-certificate to the next step along the learning pathway.

study passes for objective reality, for example, whether learners received career guidance or not, is in part a matter of interpretation (career guidance can take a variety of forms, some of which may be indirect); hence the use of 'quasi-behavioural' to describe such behaviours.

As social attitude exponents like Jowell aver (2002), moreover, the measurement of attitude is no less valid than the measurement of behaviour. In the context of the transformation of the technical college sector into the FET college sector, it is important to assess institutional responsiveness by going beyond the 'hard evidence', the quantitative overviews of the sector provided through the collaboration of the Department of Education (DoE), the National Business Initiative (NBI), and colleges themselves (Powell & Hall 2000 and 2002), to canvass student *opinion* about the extent to which colleges have prepared them for entry into the labour market. The triangulation of as many sources of information about college responsiveness as possible is needed if a holistic picture of the sector that can inform its transformation is to emerge.

Profile of respondents

Biographical characteristics

Province

The total number of graduates who completed valid questionnaires as part of the Technical College Learner Satisfaction Questionnaire survey was 3 503. The provincial breakdown is shown in Table 3.1.

Table 3.1: Response to technical college learner satisfaction questionnaire survey by province[2]

	EC	FS	G	KZN	M	NC	L	NW	WC	Total
N	73	315	1 874	547	194	25	99	86	290	3 503
Percentage	2.0	9.0	54.0	16.0	5.0	0.7	3.0	3.0	8.0	100.0

As Table 3.1 indicates, the vast majority of responses (more than half of all responses) were from graduates in Gauteng, only four other provinces providing more than five per cent each of the responses. This means that the findings for the Eastern Cape, Northern Cape, Limpopo, and the North West should be treated with some caution, there being fewer than 100 responses from each of these provinces. This is true even though the data upon which the interpretation is based are weighted. Most of the findings from the survey are reported at the aggregated, national level.

Population group

Table 3.2 illustrates the spread of graduates across population groups. A comparison of this survey population group distribution with the population distribution in the country as a whole reveals an over-representation in the tracer study survey of Africans and whites (the national percentages are 77.5 and 10.4 respectively) and an under-representation of coloureds and Indians (the national percentages are

2 In this and subsequent tables, province names are abbreviated. The key is: EC = Eastern Cape; FS= Free State; G = Gauteng; KZN = KwaZulu-Natal; M = Mpumalanga; NC = Northern Cape; L = Limpopo; NW = North West; and WC = Western Cape.

Table 3.2: Technical college graduates, by population group

Group	EC	FS	G	KZN	M	NC	L	NW	WC	Total
African	73.6	90.8	91.1	83.7	93.1	46.6	84.7	82.7	26.6	79.6
Coloured	13.5	1.5	0.6	0.6	0.3	23.6	0.0	3.1	41.1	6.6
Indian	0.0	0.0	0.3	3.2	1.3	0.0	0.0	3.4	1.0	1.0
White	12.9	7.4	7.5	12.3	5.3	29.8	14.2	10.8	29.6	12.4
Other	0.0	0.3	0.4	0.2	0.0	0.0	1.0	0.0	1.7	0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

9.5 and 2.5 respectively) (Stats SA 2001a). However, the tracer study breakdown correlates well with the figures provided by the latest NBI report (Powell & Hall 2002) where data from 2000 show that 78.8 per cent of learners are African, 6.9 per cent coloured, 1.6 per cent Indian, and 12.7 per cent white. Significantly, African learner enrolments in the FET college system have risen by 7.5 percentage points in the two years since the first NBI report (Powell & Hall 2000), while coloured and white enrolments have dropped by 2.4 and 5 percentage points respectively.

The strong correlation between the 2002 NBI statistics and the tracer study figures increases the validity of the tracer study findings, at least for population group cross-tabulations with a range of other variables.

Gender

There is a large gender difference in the national response profile – 71 per cent of respondents are male.

A comparison of this response rate with the gender profile of students enrolled in technical colleges in 1998 (Powell & Hall 2000: 41) reveals that while nearly three-quarters of respondents to the present survey are male, 56 per cent of students enrolled in technical colleges in 1998 were male.[3] From the 2000 statistics (Powell & Hall 2002: 91) female engineering students constitute only 18 per cent of total engineering students. Notwithstanding the fact that 48 per cent of all full-time equivalent (FTE) teaching enrolments in the sector are in business studies and 41 per cent in engineering studies, then, males are bound to outnumber females in the college sector, even though females constitute 68 per cent of business studies headcounts.

Nevertheless, these statistics do not account for the high male response rate to the survey. There is no evidence to suggest that those technical colleges offering engineering programmes were more responsive to the HSRC's request for information; that male learners are more likely than female learners to participate in surveys;[4] or that the throughput rate is significantly higher for males than for females. Thus, the reasons for the male bias amongst respondents remains a matter for speculation.

3 This percentage is based on information obtained on only 70 per cent of the colleges (Powell & Hall 2000: 83).
4 Indeed, the Australian evidence (NCVER 1999: 39-40) suggests both higher female response rates and graduation rates.

Age

The average age of respondents to the survey at the time of graduation (in 1999) was 21. A comparison with the average age (19) of Grade 12 respondents to a recent national survey (Cosser with Du Toit 2002) would suggest that the majority of graduates were post-school entrants into technical colleges. This is borne out by the finding that 81 per cent of graduates had achieved a Grade 12 qualification *before* achieving an N2, N3 or NSC.

A categorisation of age reinforces the discrepancies in the ages of South African technical college graduates. Thirty-one per cent of graduates were in the 15- to 19-year-old category in 1999 and 56.4 per cent in the 20- to 24-year-old category. Only 12.6 per cent were older than 24. By comparison with students in the Technical and Further Education (TAFE) system in Australia, South African technical college students are for the most part either first-time entrants or at least early-career students. Fifty-eight per cent of TAFE graduates in 1999 were older than 24 (NCVER 1999: 40). This difference, whilst reflecting different levels of development and employment structures, raises questions about the official promotion of lifelong learning in the South African education and training system.

Parental education

The education levels of graduates' parents/guardians are indicated in Tables 3.3 and 3.4.

Table 3.3: Highest level of education of father/male guardian

Education	Total
Primary school or less	30.6
Matric or less	42.1
College	7.6
Higher education (technikon or university)	9.2
Unknown to graduate	10.5
Total	**100.0**

Table 3.4: Highest level of education of mother/female guardian

Education	Total
Primary school or less	32.1
Matric or less	45.8
College	8.4
Higher education (technikon or university)	7.5
Unknown to graduate	6.3
Total	**100.0**

There is only a slight gender difference in the education levels of parents/guardians, which runs counter to the popular belief that males are more highly educated than females. Moreover, there is a strong correlation between the percentages of graduates' guardians from this survey and the percentages of Grade 12 learners' guardians from the Grade 12 Learner Choice survey conducted in 2001 who have a higher education (HE) qualification: seven to nine per cent of the guardians of Grade 12 learners in the public schooling system have an HE qualification (Cosser with Du Toit 2002). HE levels of parents/guardians of learners across the FET system (schools and technical colleges), then, are similar.

While gender differences are slight, however, racial differences in parental/guardian education levels across the four population groups are enormous. Thirty-eight per cent of African learners' fathers/male guardians have only a primary education or less, while less than one per cent of white male guardians are educated to this level only. At the other end of the spectrum, six per cent of African male guardians have an HE qualification, while the figure for white male guardians is 29 per cent.

Most tracer study graduates who successfully make the transition from FET to HE are first-generation students at that level, which is likely to have a significant effect on the high attrition and drop-out rates in HE reported in the *National Plan for Higher Education* (DoE 2001b).

Education and employment of technical college graduates

Education levels

Eighty-one per cent of graduates had already achieved a Grade 12 certificate before achieving their N2, N3 or NSC. In other words, for many learners, embarking upon a programme leading to the achievement of an N2 or N3 certificate constituted a regression to a level of learning lower than their highest level of achievement in the logic of the NQF. This both underscores the apparent value accorded technical qualifications by learners, who view their achievement as the gateway to the world of work, and constitutes an oblique comment on the failure of the schooling system to prepare learners adequately for entry into the labour market.

The profile of graduate responses by qualification type achieved in 1999 is shown in Table 3.5.

Table 3.5: Qualifications achieved by technical college graduates in 1999

Qualification	Percentage
NSC	9.0
N2	48.4
N3	42.6
Total	**100.0**

Crucially, 66 per cent of respondents to the graduate tracer survey went on to achieve a qualification after 1999 and 35 per cent were still studying at the time of the survey. Although the bulk of these were still within the college sector (studying at N4 to N6 level), 13.6 per cent were enrolled in university and technikon programmes. This clearly has salience for the policy debate regarding the future of N4 to N6 qualifications. If these are to be discouraged and the emphasis placed upon technical qualifications at NQF level 5 within technikons, then the transition rate from college to technikon would have to increase significantly.

When asked for their motivations to further study, a quarter of graduates studying further cite achieving a higher qualification as one of their main reasons for doing so, while 22 per cent cite improving their chances of finding a job as the main reason for further study. A cross-tabulation of qualification type with reasons for studying further supports

Table 3.6: Choice of field of study for N2, N3 or NSC, in descending order of popularity

Field of study	Percentage
Electrical engineering (heavy and light current)	58.9
Mechanical engineering	19.4
Secretarial	5.7
Grade 12	3.7
Construction	3.3
Administration (public and business)	2.9
Other	1.8
Financial management	1.0
Art & design	0.7
Marketing	0.5
Hospitality & associated industries	0.5
Hair care	0.4
Cosmetics	0.4
Grade 10 & 11 programmes	0.3
Clothing production & textiles	0.2
Educare	0.2
Interior decorating	0.1
Personnel (including human resources and public relations)	0.1
Music & dance	0.0
Tourism	0.0
Total	**100.0**

the argument. However, these answers leave much of the complexity of individual motivations hidden. In particular, it would be interesting to know the complex relationships between these two motivations that lurk behind our request for them to select 'the most important reason'.

Study choices

The fields of study in which graduates achieved their N2, N3 or NSC qualifications are outlined in Table 3.6.

As is evident from Table 3.6, the engineering studies programmes (electrical and mechanical engineering, and construction) are overwhelmingly the most popular, accounting for 81.6 per cent of study choices.[5] Nearly six out of ten graduates achieved their qualification in electrical engineering alone. That tourism should be the least popular programme indicates the extent of mismatch between college provision and market demand with regard to a major growth industry in the national economy.

The male-female breakdown for each field paints the following dichotomies (Table 3.7):

Table 3.7: Choice of field of study, by gender

Field of study	Male	Female
Electrical engineering (heavy and light current)	75.4	24.6
Mechanical engineering	91.6	8.4
Construction	85.0	15.0
Financial management	28.5	71.5
Marketing	89.0	11.0
Hospitality & associated industries	26.3	73.7
Hair care	6.6	93.4
Grade 10 & 11 programmes	28.7	71.3
Music & dance	0.0	100.0

The main trend that emerges from these findings is that while male learners tend to pursue technically-oriented programmes in colleges, female learners follow other pathways (the predominance of female learners in general education programmes at Grade 10 and 11 reinforces this dichotomy). However, it is worth noting that female subscription to the electrical branch of engineering is notably heavier than to the mechanical branch and to construction. Strikingly, while financial management is strongly female-oriented, the reverse is true of marketing. This paradox contradicts popular opinion, which regards financial management as a male preserve and marketing as an increasingly female domain. A disaggregation by population group reveals little variation in preferences between study areas. However, there is far more white participation in the less popular subject areas. This may be a function of both historically better access to and

5 The word 'popular' in this and subsequent parts of the discussion may be a misnomer, given that learners enrol for study programmes for very different reasons: they can be persuaded to register for programmes other than their original choices because their original choices were full; college staff may decide that learners are not suited to particular programmes because they do not have the appropriate academic backgrounds to enter those programmes; learners' marks do not allow them to pursue certain courses; and so on. In other words, learners may not have had a free hand in 'choosing' what to study.

knowledge of the labour market amongst the white population. The relatively low white enrolments in engineering programmes (electrical, mechanical, and construction) is also probably indicative of the extent to which white learners intent on obtaining a qualification in engineering enrol in technikons and universities rather than technical colleges, aided by their typically higher Grade 12 scores in Mathematics and Science. The extent of support for the reasons advanced in the questionnaire for these study choices (learners could select more than one reason) is indicated in Table 3.8.

Table 3.8: Reasons for choice of field of study, in descending order of extent of support

Reason	Percentage
I was interested in it	61.1
To get a job	23.5
It was the easiest programme/course for me to study	7.7
Other	3.6
My family wanted me to [study in this field]	2.0
The programme/course I wanted to study at the college was full	2.0
Total	**100.0**

The discrepancy between study choice based upon notions of finding employment (23.5 per cent) and study choice based upon interest in the field (61.1 per cent) is striking. While in itself commendable, the fact that nearly two-thirds of learners at the outset of their technical college education made a choice of study direction largely on the basis of interest in the field, and, concomitantly, that fewer than a quarter chose their area of study because they thought it would lead to their finding a job, is an oblique comment on the extent to which either their schools or their families prepared them for college study, and ultimately upon the career guidance system in place in the school and technical college sectors.

Employment status

Thirty-four per cent of graduates reported being either employed or self-employed, whether full time or part time. When the 35 per cent in further study are considered, this suggests 31 per cent were unemployed or economically inactive for other reasons. However, it is probable that an important determinant of further study is an inability to find employment. Therefore, the overall picture of student labour market placement remains negative. This, however, needs to be placed in the contexts of both massive South African youth unemployment and international rates for college to employment transition.

A disaggregation of the data by population group reveals a striking discrepancy between the percentages of employed white (58 per cent) and African graduates (21 per cent). On the face of it there would seem, based upon these statistics, to be discrimination against Africans in recruitment practices, though clearly there may be other factors influencing this phenomenon beyond the scope of this study.

The percentage of self-employed graduates employing other persons is low across all four population groups, only two per cent for white graduates and 1.4 per cent for African graduates. This finding is unsurprising given the recent graduation status of this cohort; the percentages of recent graduates in sustainable, qualification-related self-employment tend to be low universally (McGrath & King 1995). However, the percentage is low in comparison with other African countries, where most of the officially unemployed would be engaged in some informal-sector activity, whether employing others or not (McGrath & King 1995).

A disaggregation of employment status data by gender reveals, unsurprisingly, a bias towards employment of males over females. While 30 per cent of males are employed by a company/organisation, only 21 per cent of females are thus employed.

What the analysis in the preceding paragraph does not take into account, however, is the occupations in, and levels at, which male versus female graduates are employed. The next section, which focuses on sectoral and occupational activity of graduates, addresses this issue.

Employment experience

Of the 34 per cent of graduates in employment after achieving their N2, N3 or NSC, the majority (65 per cent) worked[6] in the private sector, while roughly equal proportions (15 per cent and 19 per cent) worked for or within the state and non-governmental organisations (NGOs) respectively. There is very little evidence of self-initiated enterprise, only one per cent of graduates having been self-employed. For 73 per cent of graduates, it was their first job.

Almost identical proportions of those graduates who were employed were in permanent (41 per cent) or in temporary contract (40.8 per cent) employment. Twenty-seven per cent of those employed worked a 33 to 40-hour week; 36 per cent worked a 41 to 48-hour week; and 14 per cent worked more than 48 hours per week. One in ten graduates worked for eight hours or fewer per week. Thus, the considerable majority were in full-time work situations, although it is possible that, for some, this was through working in more than one job.

Employment by sector

The percentages of graduates employed in the different officially recognised sectors[7] are indicated in Table 3.9.

There is an over-representation of certain sectors here when compared to overall national statistics. Mining/quarrying, electricity/gas/water supply and manufacturing are particularly over-represented, as would be expected given their reliance on technical skills. Of more concern is the positions occupied by graduates in these sectors, and whether their skills enhance the productivity of the organisations or companies in which they work.

Employment by occupation

The discussion now turns to the occupations of the technical college graduates in the survey. More than a third of graduates did not know how to categorise their occupation. Following a post-coding exercise to re-categorise the 'Unsure' responses in terms of the

6 Section 3 of the questionnaire asked respondents who were or who had been employed to answer questions with regard to their most recent employment experience. 'Worked' is used for purposes of convenience, though this does not necessarily imply that graduates employed between 1999 and the time of the survey are no longer employed.
7 These sectors constitute the main categories within the Standard Industrial Classification (SIC) system as used by Statistics South Africa (Stats SA) (1993) at the time of the survey.

nine Standard Occupation Classification (SOC) categories (Stats SA 2001b), however, the picture presented in Table 3.10 emerges.

Table 3.10 suggests that the bulk of employed graduates do seem to be in technically-related areas: as technicians, craft workers and operators. These account for 61.9 per cent

Table 3.9: Sectors in which technical college graduates are employed

Sector	Percentage employed in the sector*
Manufacturing	18.9
Wholesale/retail/repairs/hotels	17.7
Electricity/gas/water supply	15.1
Community/social/personal services	14.3
Mining/quarrying	11.4
Construction	7.8
Financial/insurance/real estate/business services	7.1
Transport/storage	4.7
Agriculture/hunting/forestry/fishing	1.8
Other	1.1**
Total	100.0

** Almost a fifth of respondents (19.4 per cent) could not identify from the list provided the sectors in which they worked. A post-coding of their verbal responses according to the nine SIC sectors has produced the results in this table.*
*** The 'other' category here accounts for the percentage of invalid responses to the question.*

Table 3.10: Occupations of technical college graduates

Occupation	Percentage employed in that occupation
Legislators, senior officials and managers	0.9
Professionals	1.4
Technicians and associate professionals	20.5
Clerks	11.8
Service workers, shop and market sales workers	15.8
Skilled agricultural and fishery workers	0.9
Craft and related trades workers	25.7
Plant and machine operators and assemblers	15.7
Elementary occupations	3.5
Unsure	3.9*
Total	100.0

** As in the case of the SIC categories, the 'Unsure' category here reflects the percentage of invalid responses to the question.*

of respondent employment, as opposed to only 32 per cent of employment in the economy as a whole. Moreover, 28 per cent of the rest are in areas clearly related to the business studies element of college activities.

However, in terms of status and income, these occupational categories do form a rough hierarchy and it is significant that there are racial differences in which segments the employment of respondents is concentrated. For whites and Indians, the biggest occupational group is technician, but for coloureds and Africans it is craft. From a gender perspective, it is apparent that old divisions are still present. For female graduates, the two most common areas of employment are as clerks and service and sales workers. While 31 per cent of female graduates are clerks, the figure is only six per cent for male graduates. Equally, while 28 per cent of female graduates are service and sales workers, only 12 per cent of male graduates occupy such positions.

Given these stark gender differences, it comes as no surprise to discover from a CHAID analysis that of all the possible variables affecting the outcome of Question 3.8 ('What is/was your occupation?'), gender emerges as the strongest predictor of a graduate's occupation. This suggests that gender is not only the strongest discriminating, but also the strongest discriminatory, factor in employee occupation amongst technical college graduates.

A cross-tabulation of the sectors in which technical college graduates work and their occupations reveals the following. From a sector perspective (looking at the top five sectors employing technical college graduates):

- Nearly half of the graduates employed in the manufacturing sector (47 per cent) are employed as plant and machine operators and assemblers, a quarter (26 per cent) as craft and related trades workers, and 13 per cent as technicians and associate professionals.
- Two out of five workers employed in the wholesale/retail/repairs/hotels sector (41 per cent) are employed as service workers, shop and market sales workers, as one might expect. Nearly a quarter (22 per cent) are employed as craft and related trades workers, 17 per cent as technicians and associate professionals, and 15 per cent as clerks.
- About two out of five workers (43 per cent) employed in the electricity/gas/water supply sector are employed as craft and related trades workers and as technicians and associate professionals (39 per cent), and eleven per cent are employed as plant and machine operators and assemblers.
- A third of workers in the community/social/personal services sector (34 per cent) are employed as technicians and associate professionals, and nearly a quarter each as clerks (23 per cent) and service workers, shop and market sales workers (23 per cent) respectively.
- In the mining/quarrying sector, just under half of all graduates are employed as craft and related trades workers (49 per cent), a quarter are employed as plant and machine operators and assemblers (27 per cent), eleven per cent are employed as service workers, shop and market sales workers, and ten per cent are employed as technicians and associate professionals.

Two deductions can be made from these findings:

- There is a fairly close match between the occupations and the sectors in which graduates are employed.
- Only in the community/social/personal services sector, the major state employer, is there a significant percentage of graduate employees at the clerical level (23 per cent).

Income levels of employed graduates

The monthly income of employed graduates is outlined in Table 3.11.

Table 3.11: Gross monthly income of employed technical college graduates

Income	Percentage
Less than R1 000	36.4
R1 001 – R3 000	45.0
More than R3 000	18.6
Total	**100.0**

Most of the graduates fall into the low-income bracket. While in one sense this is unsurprising, given South Africa's poverty levels, in another sense one might have expected college-leavers with an N-certificate to earn more than they do. While four out of five graduates earn less than R3 000 per month, more than a third (36.4 per cent) earn less than R1 000 per month.

A comparison with workers in the general population, moreover (Stats SA 2001a), reveals that two-thirds of workers with a diploma/certificate with a Grade 12 earn more than R2 500 a month, and that 47 per cent of workers with a diploma/certificate with a Grade 11 or lower earn more than R2 500 a month. Since the majority of technical college graduates would fall into these two categories, the comparison suggests that a lower percentage of college graduates than of workers in the general population with comparable qualifications earn more than R2 500 to R3 000 per month.

This suggests that an N2 or N3/NSC qualification is not highly regarded by the marketplace and/or that a large proportion of technical college graduates are employed in occupations for which their college education has not adequately prepared them. Indeed, notwithstanding the fairly close fit between sector and occupation reported above, 45 per cent of those employed indicated that their job was not appropriate to their college qualification. Thirty-eight per cent claimed that they took the job because they could not find employment better linked to their level of education. Moreover, 36 per cent of respondents who were self-employed (albeit this is a small group) cited not being able to find a job in the field in which they were trained as their chief reason for working for themselves.

From a population group perspective, the percentages of African and white graduates earning less than R1 000 per month are markedly different: 42 per cent and 27 per cent respectively. But while 59 per cent of white graduates earn between R1 001 and R3 000 per month, only 38 per cent of African graduates earn this amount. This means that very similar percentages of African and white graduates earn less than R3 000 a month (80 per cent of Africans, and 86 per cent of whites) and, concomitantly, that more African than white graduates earn more than R3 000 per month (14 per cent of whites and 20 per cent of Africans).

Juxtaposed with the earlier comment about apparent racial differentials in recruitment, this suggests that while African graduates find it more difficult to get a job, once they have one they are remunerated at least at the same rate as their white counterparts. A disaggregation of income data by gender reinforces the levelling picture. While 33 per cent of male graduates and 47 per cent of female graduates earn less than R1 000 per month, 47 per cent of males and 40 per cent of females earn between R1 001 and R3 000 per month. This means that while 13 per cent of female graduates earn more than R3 000 a month, the percentage of male graduates earning this amount is only 20 per cent. While the gender differences are more marked than the population group differences, the trends are similar.

The conclusions drawn in this latter part of the study about the match between technical college training and employment leads directly into the following discussion, which focuses on graduates' experiences of their college education and the extent to which it prepared them for later life, especially finding a satisfactory job.

Graduate experience of technical college education

This section discusses the findings of sections 1 and 4 of the Technical College Learner Satisfaction Questionnaire, which deal, respectively, with the graduate's college experience and (for those employed) job satisfaction. The discussion homes in on the central interest of the study, the responsiveness of technical colleges to the labour market as seen through the eyes of the student.

Choice of technical college as a study option

Asked why they chose to study at a technical college (more than one reason could be provided), graduates responded as shown in Table 3.12.

That interest in a particular field of study is much more popular a reason for graduates having chosen to study at a technical college than not being able to get a job bears out the earlier argument that at the N2/N3/NSC level the focus is more on further study than on job-seeking. Interest in further study is further confirmed by the relatively high support for technikon or university study being either too expensive (15.7 per cent) or inaccessible (12.8 per cent) (Table 3.12). Many learners clearly want to enter higher education, but because of inferior academic performance are forced to consider alternative means to accessing higher education, like the N4 to N6 levels of technical college study.

Another interesting observation is that parental influence on learner choice to study at a technical college is minimal.

Table 3.12: Reasons for study at a technical college, in descending order of popularity

Reason	Percentage
I wanted to focus on a field that I was interested in which was provided at a technical college	34.0
I could get more practical training at technical college than at school, in a technikon, or in a university	17.2
It was too expensive to study at a technikon or university	15.7
I could not get into a technikon or university	12.8
I wanted to go to a technical college rather than stay at school	6.5
I could not get a job	3.6
There was a college near my home	3.3
My parents wanted me to study at a technical college	3.0
Other	2.6
I did not know what I really wanted to do	1.4
Total	**100.0**

From a population group perspective, while African and white graduates accord equal importance to wanting to focus on their field of interest and getting more practical training at a college than at a school, technikon or university, they differ markedly on other issues. In the case of lack of access to technikons or universities, 14 per cent of African learners and only four per cent of white learners cite this as an important influence on their decision to study at a college. Equally, wanting to go to a technical college rather than stay at school is mentioned by 18 per cent of white learners, but by only five per cent of African learners. Eighteen per cent of African learners but only five per cent of white learners cite the expense of studying at a technikon or university as an important influence upon their decision to study at a technical college.

Choice of particular technical college

Asked why they chose to study at the technical college at which they studied (more than one reason could be provided), graduates responded as shown in Table 3.13.

While interest in a particular field of study remains an important reason for choosing a particular college, two new elements are introduced at the specific college stage. First, affordability emerges as the most popular reason for choice of study at a specific college (attracting 18.7 per cent of the responses). Second, the reputation of the college appears important (17.2 per cent). Both of these displace practical orientation of college provision, which in relation to the other items listed in Question 1.4 receives only 12.8 per cent of the responses.

A comparison with the Grade 12 Learner Choice survey conducted by the HSRC in 2001 (Cosser with Du Toit 2002) is instructive. The Grade 12 survey findings reveal that

Table 3.13: Reasons for choice of particular technical college, in descending order of popularity

Reason	Percentage
The fees were affordable	18.7
I was able to study the programme/course I wanted to study	17.6
The college was the best in the field in which I wanted to study	17.2
I wanted to study at a college which offered practical training in the field I wanted to study	12.8
The college was near the home of my parents/relatives	11.2
My friends recommended the college to me	5.4
My parents/relatives advised me to study at the college	4.4
I could get a job in the area around the college	3.7
I could get a study bursary to study at the college	3.6
I didn't have transport to go to another college	2.4
Other	1.7
I could stay in the hostel at the college	1.4
Total	**100.0**

affordability of higher education is a major disincentive to entering higher education (the corollary, here, is that technical college study is affordable), while the reputation of the institution and of the programme of study Grade 12 learners want to pursue is the most important factor affecting their choice of higher education institution.

The other fairly important reason for choice of college is the proximity of the college to the family home. This finding is at odds with the Grade 12 survey results in the Student Choice Behaviour study (Cosser with Du Toit 2002), which show that after the reputation of the institution and its study programme, its location (its being *far* from the home of the learner) is most important, allowing learners to stay in residence and thereby affording them a place to study in peace and quiet.

Notwithstanding technical college graduate commitment to living at home while studying, however, many graduates either lived at the time of the survey in a different province from the one in which they had undertaken most of their studies or had undertaken most of their studies in a province in which they did not live at the time of the survey. Only in three provinces (the Eastern Cape, KwaZulu-Natal, and the Western Cape) is there a high correlation between province of study and home province. Student mobility is highest in the case of the Northern Cape: 51 per cent of graduates who lived in the Northern Cape at the time of the survey undertook most of their studies in other provinces, 20 per cent of graduates resident in the Northern Cape studying in the Western Cape and 16 per cent in Limpopo, the remainder in two other provinces. In Gauteng, 78 per cent of the graduates who undertook most of their studies in the province also lived in the province

at the time of the survey (two years later). Twenty-two per cent, in other words, had apparently migrated from other provinces to study in Gauteng and then returned to their home provinces. On the other hand, more than ten per cent of graduates resident in four provinces contiguous with Gauteng at the time of the survey had migrated to Gauteng to study: the Free State (11 per cent), Mpumalanga (13 per cent), Limpopo (26 per cent), and the North West (28 per cent).

The other significant finding in Table 3.13 is that the notion of the graduate being able to find employment in the area around the college of his/her choice has *not* featured highly in the decision-making process. From a responsiveness perspective, this would suggest that the concept of a local labour market is not uppermost in the minds of technical college learners at the institutional choice stage.

This finding is reinforced through an analysis of a population group disaggregation, which reveals that local area employment is not an important reason for choosing to study at a particular technical college for any of the four population groups. What is important, for African graduates, is:

- The affordability of college fees (20 per cent cite this as a reason for choosing a college).
- The reputation of the college (19 per cent).
- Being able to study the programme of one's choice (17 per cent).
- Being able to study at a college that offered practical training (13 per cent).
- The college being near the family home (ten per cent).

The reasons assented to by white learners for choosing a particular college are very similar; only the order differs. White learner assent to the listed reasons is as follows:

- Being able to study the programme of one's choice (21 per cent).
- The college being near the family home (17 per cent).
- The fees being affordable (13 per cent).
- The college providing practical training (12 per cent).
- The reputation of the college (11 per cent).

African learners, then, are more influenced than are white learners in their choice of a college by the affordability of fees and less influenced than are white learners by the college being near the family home. These findings are consistent with the results of the Grade 12 Learner Choice survey (Cosser with Du Toit 2002).

Language of learning at college

Table 3.14 reports the results of the question about language of learning at the college. The results are disaggregated by province to highlight the resonance of the finding about the effect of Afrikaans upon ability to learn with one of the main triggers of the Soweto uprising of 1976: the provision of education through the medium of Afrikaans.

Learning at college, as Table 3.14 indicates, takes place almost exclusively through the medium of English or Afrikaans. A provincial analysis reveals that in only one province, the Northern Cape, is Afrikaans the main language of learning (though given the size of

Table 3.14: Language of learning at college

Language	EC	FS	G	KZN	M	NC	L	NW	WC	Total
Afrikaans	1.4	3.9	2.0	1.4	3.2	64.2	8.8	3.6	9.2	**4.5**
English	98.6	94.9	96.8	97.3	95.8	35.8	91.2	94.9	89.0	**94.6**
Other languages	0.0	1.2	1.2	1.3	1.0	0.0	0.0	1.5	1.8	**0.9**

the response from this province, this finding may not be meaningful), while in Limpopo and the Western Cape some learning through the medium of Afrikaans occurs. The low percentage for Afrikaans as language of learning in the Western Cape is surprising, given the strong coloured-Afrikaans association in that province. Indeed, Afrikaans is the major home language of 35 per cent of Western Cape technical college graduates.

While 94.6 per cent of learners learn through the medium of English, however, only ten per cent speak mostly English at home. This gives some indication of the scale of the linguistic challenge facing South African education, and goes some way towards explaining the very uneven throughput rates reported by the NBI study in technical college education (Powell & Hall 2000: 75–79). While nationally only four per cent of graduates reported that the language of instruction made their programme of study more difficult for them, moreover, a provincial analysis reveals that in those provinces in which there is a fair degree of instruction in Afrikaans there is a proportionally greater degree of difficulty with the learning programme.

Quality of provision at the college

Asked to rate their college education according to a number of variables, graduates responded as shown in Table 3.15.

What is immediately evident is that all of the mean values are above 3 ('Neither bad nor good') on the five-point Likert scale, and therefore in positive territory. There is some indifference about aspects of college provision; but more than half of the items have values above 4. Closer inspection reveals that all items concerned with actual teaching (quality of teaching, fairness of marking, help with language problems and study methods, staff availability, text books, and lecture handouts) are scored above 4. Respondents are less sanguine, however, about the practical aspects of college provision (practical instruction, laboratories and workshops). Ironically, practical instruction is cited elsewhere by respondents as one of the key attractions of technical college study. Noteworthy is the fairly indifferent value accorded to engineering workshops (3.3) in the light of the high enrolment patterns in engineering studies.

Thus, it appears that colleges are perceived by their graduates to be doing quite a good job, notwithstanding the limited placement of graduates in employment. However, from graduates' responses it appears that relative importance may need to be given to further improvements in the quality of technical facilities and provision.

Table 3.15: Quality of provision at technical colleges, in descending order

Variable	Mean
Quality of teaching	4.4
Staff available to help me when needed	4.3
Condition of buildings	4.3
Fairness of marking	4.2
Text books	4.2
Lecture handouts	4.2
Help with study methods	4.1
Help with language problems	4.0
Personal security at the college	3.9
Security of belongings at the college	3.8
Computer laboratories	3.5
Practical instruction	3.3
Engineering workshops	3.3
Library material	3.2
Other practical workshops (Educare, hair salons, and so on)	3.1

Graduates may not be perfect judges of the quality of their learning given their limited experience of other learning settings. However, comparison of these findings with those from the Employer Satisfaction survey (reported in Chapter 4) concerning employers' perceptions of graduate preparation for the job suggests considerable agreement. The majority of employers surveyed indicated their satisfaction with the balance between theory and practice in college courses (64 per cent), the relevance of course content to industry/business needs (78 per cent), and the competency of college teaching staff (73 per cent). However, nearly 60 per cent of employers surveyed would like to see graduates improve in the areas of demonstration of practical skills. The majority also highlight the ability to use initiative and problem-solving skills as major future priorities for colleges.

Returning to the graduate tracer study, African respondents assign higher values than do white respondents to the quality of teaching (4.5 versus 4.1), personal security at the college (4.0 versus 3.4), and security of belongings at the college (3.9 versus 3.1). The latter two are not unsurprising in the context of predominantly African-learner campuses. White respondents assign higher values than do African respondents to practical instruction (3.6 versus 3.2) and computer laboratories (3.9 versus 3.5). In other respects, there are no significant differences between the four population groups on the listed aspects of college provision.

Given the positive response profile for college provision, it is not surprising that 88 per cent of graduates would recommend the technical college where they studied to their family or friends. Nor is there much difference in the responses of the four population groups to the question – white learners being slightly more inclined than African learners to recommend the college to family and friends.

Career guidance

Graduates were asked whether they had received any course/programme guidance:

- Before entering the college (that is, at school).
- While they were enrolled at the college.

In addition, they were asked whether they had received any assistance from the college in finding a job at the end of their study programme.

Half the respondents (50.4 per cent) indicated that they had received some guidance before entering the college, while 60 per cent indicated that they had received some guidance during their enrolment at the college. Two out of five graduates, then, reported receiving no guidance on their study direction at college.

More revealing, however, is the extent of support provided by colleges in assisting graduates in finding employment. Table 3.16 outlines the findings in this regard.

Table 3.16: College provision of assistance in employment seeking

College assistance	Percentage
Yes	16.5
No	71.0
N.A.	12.5
Total	**100.0**

More than two-thirds (71 per cent) of graduates indicate that their colleges did not assist them in finding employment, only 12.5 per cent of graduates indicating that such assistance was not required. A disaggregation by population group paints an even bleaker picture for learners from all groups except white: nearly three-quarters of African, coloured and Indian learners received no such assistance at college, while 60 per cent of white learners received no such assistance. This does not mean that a proportionally higher percentage of white learners received job-related assistance, however. Similar percentages of African and white learners received such assistance (16.6 per cent and 17.1 per cent respectively), but 22.7 per cent of white learners (as against 10.9 per cent of African learners) did not require such assistance, because they went on to study further.

The vast majority of learners who exit a technical college with an N2, N3 or NSC join the ranks of the economically active with no adequate preparation in the form of career guidance. This may contribute significantly to the high unemployment rate amongst technical college graduates. Of those graduates who did receive college assistance in finding a job, the assistance took the forms shown in Table 3.17.

Table 3.17: Types of assistance in finding employment provided by college, in descending order of occurrence

Type of assistance	Percentage
The college arranged for employers to interview students at the college	53.4
Other	25.3
One of my teachers helped me find a job	17.1
An expert in helping people find jobs helped me	4.2
Total	**100.0**

More than half (53.4 per cent) of the 16.5 per cent of graduates who received job-related assistance did so through being interviewed by employers at the college. A quarter (25.3 per cent) indicate that assistance took some other form, the disaggregation of which is outlined in Table 3.18.

*Table 3.18: Graduate indication of types of assistance in finding employment provided by college, in descending order of occurrence**

Type of assistance	Percentage
College advertised posts available	28.3
College distributed job application forms	18.2
College provided students with company details	10.4
College provided a recruitment service for companies	9.8
College linked me to a specific company	7.7
College provided a vocational development programme	6.9
College coached students in how to find employment	2.8
College gave students practical training	2.8
College sent student CVs to companies in response to posts	2.6
Student Support Centre of college helped me find a job	2.4
College arranged visits to various workplaces	1.9
College provided me with an apprenticeship	1.7
College arranged for companies to interview students on company premises	1.1
College issued students with testimonials	1.1
College arranged bursaries from specific companies	0.8
College linked me to an employment agency	0.6
College provided information on specific careers	0.5
College provided help in preparing a CV	0.5
Total	**100.0**

** It should be emphasised that the responses contained in this table together constitute only 25 per cent of graduate responses to the question of forms of assistance provided by the college in graduates' finding employment.*

While the percentages of responses under the 'Other' category are small, there are nevertheless some useful suggestions amongst them for ways in which colleges might assist graduates in finding employment. Half of the items in Table 3.18 suggest active college-industry links in the interest of securing employment for graduates.

Work experience during technical college study

More than three-quarters of graduates (78 per cent) indicate that they did not acquire any work experience during their college studies. Of those who did acquire work experience, more than half (54 per cent) found work by themselves, just over a quarter (28 per cent) worked in a company that had links to the college, while 19 per cent worked in the college itself. Again, the majority are apparently left to fend for themselves on the work front.

The vast majority of graduates (89 per cent) were not apprenticed under an industry training board during their studies. This is a serious comment on the effectiveness of the Training Board scheme, which, of course, has now been superseded by learnerships. An even larger percentage (91 per cent) did not qualify as artisans either during or subsequent to their studies. A slightly higher percentage of white than African graduates (14 per cent to nine per cent) qualified as artisans.

The lack of college-provided opportunities for learner work experience during study and the low rates of apprenticeship pose serious challenges for the new learnership system in South Africa. If this system is to succeed, it must make full use of FET colleges in the provision of technical and vocational education towards the achievement of learnership qualifications. The three-way partnership underpinning learnerships (learner-employer-training provider) depends, moreover, on the equal commitment of each of these parties. This suggests the need for far greater co-operation between colleges and industry than even the findings from the cases studies of three merged FET institutions in Chapter 5 show to exist at present.

First employment after technical college studies

Table 3.19 outlines the means by which graduates found employment after leaving college (they could select one option only).

Of those graduates who found employment after their college education, more than half (53 per cent) did so through personal contacts. Only 14 per cent secured employment through the offices, direct or indirect, of the technical college. Personal connections are clearly powerful; but some of these may emanate from contacts of family, friends and acquaintances with technical colleges or with industries with which colleges have formal or informal connections. More research is needed to probe the extent to which colleges have in fact developed networks into which learners can tap. What is clear from the finding about personal contacts leading to employment is that the formation of networks, as an embodiment of social capital, is a critical factor in job placement.

A further analysis of the findings in Table 3.19 reveals that 11 per cent of employed graduates took their own initiative in finding employment. This was variously through approaching an employment agency, taking holiday jobs, becoming self-employed, or

Table 3.19: Graduate means of finding employment after college education, in descending order of occurrence

Means of finding employment	Percentage
Through personal contacts	29.5
Through relatives	18.9
Through a newspaper advertisement	17.4
Through an employment agency	6.7
Through my employer coming to the college to find employees	4.9
I am working for the same employer for whom I worked before my studies	4.6
I joined the family business	4.1
Through my employer coming to the college to talk to students about jobs in that company	2.9
Through college teaching staff	2.8
Through holiday jobs during my period of study	2.4
With the help of the college	2.4
I am self-employed	1.4
The college gave me a reference	1.1
Through paying back a loan I received from an employer to study	0.8
Through placing my own advertisement in a newspaper	0.2
Total	**100.0**

placing their own advertisements in newspapers. On average, it took graduates six months to find employment after leaving the college.

A disaggregation of the data by population group reveals that the percentage of Africans who found employment through personal contacts (44 per cent) is far lower than the percentages of the other three groups doing so (between 65 per cent and 67 per cent). In the case of the African-white dichotomy, this may largely be because of white graduates' capacity to join the family business (14 per cent of whites versus one per cent of Africans). However, while 18 per cent of Africans secured employment through the offices, direct or indirect, of the college, only ten per cent of whites, five per cent of coloureds and four per cent of Indians did so.

Asked to indicate the importance of a range of factors in securing them employment, graduates responded as shown in Table 3.20.

Noteworthy is the relatively low scores on these items, which are all below the mid-point value of 3 and therefore in negative territory. This would suggest that 'other' factors were

Table 3.20: Factors helping graduates secure their first job, in descending order of importance

Variable	Mean
Having an N2/N3/NSC	2.6
The programme/course I studied at the technical college	2.5
Having matric	2.5
Other	2.5
The confidence which the N2/N3/NSC gave me for the job interview	2.5
References from people who knew me	2.2
Practical/work experience acquired during the programme/course	2.0
The help which the college gave me for the job interview	1.7

more important than those listed in securing employment for graduates. Table 3.21 contains a list of those factors graduates indicated helped them obtain their first job.

Table 3.21: Factors graduates indicated helped them secure their first job, in descending order of importance

Variable	Mean
Having a driver's license	5.0
Having an N4, N5 or N6	5.0
Being qualified in Maths or Science	5.0
Having leadership qualities that were developed at the college	5.0
Having obtained good results at the college	5.0
Having been motivated by lecturers at the college	5.0
Being skilled	5.0
Having a strong work ethic	5.0
Having gone through an apprenticeship	5.0
Gender	5.0
Being bilingual in English and Afrikaans	5.0
Having strong communication skills	5.0
Having previous job experience	4.9
Having a post-college education	4.5
Having received computer training	4.4
Being self-confident	4.3
Parental support	4.0

As surmised above, the factors in Table 3.21, most of which have a mean score of 5, are all rated as greater influences upon securing a first job than are the factors in Table 3.20. Significantly, further qualifications are part of the picture here, as are factors related to more generic skills and work experience. Worryingly, gender is clearly perceived as a major factor in employment prospects.

Relevance of studies to work situation

Asked about the extent to which they used the knowledge and skills acquired during their studies in their jobs, 28 per cent of graduates indicated that they used their skills to a small extent or not at all, while 56 per cent said they used their skills to a large or very large extent. (The balance said they used their skills to some extent.) A similar percentage of graduates (55 per cent) indicated that their jobs were appropriate to their college qualifications. For the 45 per cent of graduates for whom their jobs were not appropriate to their N2, N3 or NSC qualifications, they took the jobs for the reasons shown in Table 3.22 (they could assent to more than one reason).

Nearly two out of five graduates employed (38.2 per cent) had to accept employment in an area not linked to their college education. Together with the finding that the position occupied by the graduate provides better career opportunities than would a position in his/her field of specialisation, this suggests that technical college provision is not aligned

Table 3.22: Reasons for graduates accepting work not linked to their college education, in descending order of assent

Reason	Percentage
I have not (yet) been able to/could not find a job that is/was better linked to my level of education	38.2
In doing this job I have/had better career opportunities	13.6
I do/did not mind having a job that is/was not linked to my studies	9.1
I have/had to accept work that is/was not closely linked to my studies at the beginning of my career	8.3
My current/past job allows/allowed me to look after my family's needs	8.2
Other	7.5
I can/could earn more money in my current/past job	3.8
My current/past job is/was more interesting	3.8
My current/past job allows/allowed me to work part-time or when I want/wanted to	3.1
My current/past job is/was more secure	2.5
I have been/was promoted to a position less closely linked to my studies (than was my previous position)	0.9
My current/past job allows/allowed me to work where I want/wanted to	0.8
Total	**100.0**

closely enough to the needs either of the learner or of the marketplace. This may mean, however, that employers take on college graduates for reasons other than those for which graduates would normally be expected to be recruited. A further 17.4 per cent of graduates, moreover, are happy to be employed in positions not aligned with their areas of expertise, simply for the sake of having a job.

In the German labour force, by contrast, large numbers of graduates do not follow their particular trade after qualification. The apprenticeship system, rather, is seen as conferring status and providing evidence more of general competence than of specific expertise (Lauglo 1994).

Job satisfaction

Asked about the extent to which they were satisfied with various aspects of their work situations, employed graduates responded as shown in Table 3.23.

Table 3.23: Satisfaction with aspects of work situation, in descending order of extent

Variable	Mean
Content of work	3.8
Working conditions	3.7
Opportunity to learn while working	3.6
Opportunity to use knowledge and skills acquired during studies	3.5
Job security	3.4
Income	3.0

Interestingly, as Table 3.23 reveals, graduates are relatively indifferent about their income, reinforcing the point that having a job is paramount. On balance, graduates indicate that they are more inclined to be satisfied than dissatisfied with their work situations, but narrowly so: the mean value for the item is 3.3.

Those graduates employed by a company or organisation indicate the extent of their satisfaction with aspects of their work situations as shown in Table 3.24.

Table 3.24: Satisfaction with aspects of work situation in companies/organisations, in descending order of extent

Variable	Mean
Equal treatment of women	3.7
Equal treatment of disabled persons	3.5
Equal treatment of all population groups	3.2
Promotion opportunities	2.8
Benefits (medical aid, housing allowance, pension, and so on)	2.7

Encouragingly, from a constitutional perspective, graduates employed within companies or organisations are more satisfied than dissatisfied with the treatment of different race groups, disabled persons, and women, but again, only marginally so. They are less than satisfied with promotion opportunities and with benefits, both, probably, in short supply early on in a career. A disaggregation by population group reveals that white employees are more satisfied than African employees with every listed aspect of their work situation, especially equal treatment of all population groups and of women.

Finally, asked whether, in general terms, graduates' college studies had helped them find a satisfactory job and create long-term career opportunities for themselves, there was a marked divergence of response. The mean values on the two five-point scales are 2.9 for finding a satisfactory job and 3.5 for creating long-term career opportunities. White graduates were more positive than African graduates that their college studies had helped them find a satisfactory job. This is unsurprising given that they are employed at higher rates than Africans. However, African graduates were more positive than white graduates about their college studies having helped them to create long-term career opportunities.

Revisiting study choices

Asked how likely it was, if they were to revisit their study choices, that they would make the same choices again, graduates responded as shown in Table 3.25.

Table 3.25: Likelihood of graduates making the same study choices

Variable	Mean
Choose the same study programme/course?	4.5
Choose the same technical college?	4.0
Decide not to study at all?	1.3

Ironically, given the relatively low mean values on items concerned with employment situation and job satisfaction, graduates (of all population groups) are positive about choosing to study at the same technical college and extremely positive about choosing the same study programme. Clearly the fact that many graduates go on to achieve higher qualifications suggests that they see their FET experience as having provided a firm foundation not only for future study but for longer-term career development. It may also suggest that they have a realistic view of how far employment is determined by factors outside the control of the colleges.

Key challenges arising from the findings

Many of the implications of the findings of the graduate tracer study have been spelled out in the foregoing presentation and analysis. This section seeks not to repeat these implications but to foreground those issues with which policy-makers and planners operating within the new FET college landscape will need to engage.

Gender

That technical education is seen as a male preserve, as evidenced by the enrolment and job-placement patterns that emerge both from the findings of this study and from the NBI publications (Powell & Hall 2000 and 2002), is clearly a cause for concern in South Africa's fledgling democracy. The popular view that female learners are not naturally inclined towards technical subjects needs to be recognised as a socially conditioned response born out of a tradition of racial and gender stereotyping. The challenge for FET colleges is to promote, in part through their links with industry, equal opportunity for women to pursue career paths and to enter occupations in which they are under-represented. Career counselling must play a major part in this process, involving not only the learner but also the family and community in which the learner resides.

Age

The FET college sector needs to shift its orientation towards providing in-service training without compromising on pre-service training. In other words, it should have a dual focus: to prepare young persons (in the 17- to 24-year-old category) for entry into higher education and into the labour market; and to upgrade the skills of early-, mid- and late-career learners to equip them either to meet the new challenges of their existing jobs or to make career changes. Learnerships need to be promoted at both these levels. The challenge for colleges will be to recruit at all levels of the learning and career spectrum by offering programmes that both create and are responsive to labour markets that contribute towards meeting the needs of the national economy.

Language

Language has traditionally been a barrier to successful learning in a country in which the majority of learners learn through the medium of a language not native to them. The integration of previously disadvantaged African learners into the 'mainstream' former white schools and colleges since 1994 and the wider exposure to the English language in particular through television and the Internet have gone some way towards addressing the problem. But insufficient attention is paid, in schools and in colleges, to learners' ability both to speak and to write competently in the English language. While the development of communicative competence is not the primary responsibility of FET colleges, curriculum reform in the sector will need to take this aspect into account.

College focus on FET

The landscape shift from technical college education, incorporating both further and higher education, to FET has major implications for the way in which FET college education and training is conceptualised and its programmes delivered. The evidence from this study is that technical college learners in the main continue their studies beyond the N2 and N3/NSC level, whether at technical colleges or higher education institutions, and therefore see FET merely as a stepping stone to higher education and thence only to finding employment.

At present, then, FET is not viewed as the direct gateway to employment. This conception is compounded by the relatively low employment rate of graduates with an N2/N3/NSC qualification acquired at a technical college. This raises potential challenges if a Further Education and Training Certificate (level 4 of the National Qualifications Framework) is seen, as policy suggests, as the key exit qualification for colleges.

Programme provision and uptake

The findings from the study endorse the conclusions reached in both NBI reports (Powell & Hall 2000 and 2002) that while technical colleges offer a range of programmes, there is very little uptake in any programmes other than engineering and business studies. There is a clear need to rethink both the purposes behind, and the programmes offered within, technical and vocational education and training in South Africa.

Employment and employability

The relatively high rates of unemployment of N2, N3 and NSC graduates reported in this study are attributable to a range of factors. They are a product of:

- The poor quality of schooling for the majority of young South Africans.
- The low level of marketability of technical college qualifications at NQF level 4 alluded to above, and the related perception that level 4 is not the most appropriate exit level for learners.
- The relatively inferior image of technical college education that has prevailed historically amongst many communities.
- The relatively low remuneration levels of technical college graduates.
- The geographical areas in which many colleges are located.
- The mismatch between the skills outputs of colleges and the skills requirements of industry.
- Racial and gender discrimination in recruitment practices.

At least two of these, in turn, are fairly directly the product of the socio-economic status of the households into which learners are born.

Given this range of factors, no single strategy is likely to enhance the employability of technical college graduates. A range of role-players and stakeholders will need to work in concert to remedy the situation.

At the institutional level, the findings of the study suggest that colleges should be providing a much more deliberate, intensive, and sustained job placement service for learners than hitherto. This is important to ensure that learners are exposed to work possibilities and, more importantly, work experience early in, and throughout, their college training. Such placement is premised upon the development and nurturing of links, both formal and informal, with industry.

Responsiveness to the local labour market

The distribution of technical colleges under the new dispensation according to geographical clusters poses major challenges for the notion of institutional responsiveness to a local labour market. Many of these colleges are either located in areas with no obvious relationships with communities; do not service the local labour markets in which they are located; or are located in areas in which no formal labour markets exist. A major challenge for the DoE, in partnership particularly with FET colleges, local government structures and industries, will be to maximise the contribution of FET colleges to the national economy through differentiation at the local and regional levels. In other words, these role-players may need to be open to redefining FET colleges not predominantly as regional but as national resources.

Quality assurance

These same role-players, together with the various stakeholders involved in FET college education and training, will need to establish a viable quality assurance system that can assure the quality of college management, the programmes on offer, and the learning that leads to the achievement of qualifications registered on the NQF. This area is addressed by the launch of Umalusi as the relevant agency in April 2003. However, there is much more that needs to be done in developing a strong quality assurance system.

Research on the FET college sector

What has become clear from the HSRC's tracer study of a cohort of college graduates is that more, and regular, research is required if we are to understand more fully how colleges are contributing, and should contribute, to the skills development needs of South Africa. The hope of the project team is that, with refinement, the methodology deployed in this first tracer study of technical college graduates can be appropriated by institutions whose growing capacity allows them to manage information about the career pathways of their learners for the improvement of their programme provision and in the interest of becoming more responsive to the communities and economies they serve.