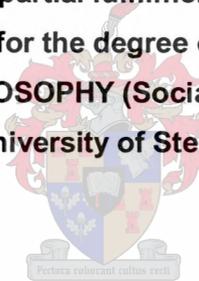


**A CRITICAL EVALUATION OF THE
RESEARCH EXPERIENCES
OF MASTER AND DOCTORAL STUDENTS
AT TECHNIKON NATAL**

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**Thesis presented in partial fulfilment of the requirements
for the degree of
MASTER OF PHILOSOPHY (Social Science Methods)
at the University of Stellenbosch**



Supervisor: Professor J Mouton

April 2004

DECLARATION

I, the undersigned, hereby declare that the work presented in this thesis is my own and that I have not previously in its entirety or in part submitted it at any university for a degree.

I hereby submit myself to the provisions of the University's regulations regarding the use of electronic resources.

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ABSTRACT

There are indications that the emergence of global trends in the production and dissemination of knowledge is influencing science policies worldwide, and compelling universities and technikons in South Africa to become more market oriented, competitive and entrepreneurial. Some of these trends include new modes of knowledge production, increased financial and academic accountability and distance education. The changing higher education landscape worldwide has implications for South African tertiary institutions. In addition, one of the objectives of the democratic government that took power in 1994 was to transform higher education. The publication of the White Paper on Education in 1997, the establishment of the Council on Higher Education (CHE) and the Higher Education Quality Committee (HEQC), and the National Plan for Higher Education in 2001 heralded the beginning of change. Consequently, it became necessary for higher education institutions to deliberate on the future course of their undergraduate and postgraduate teaching and training programmes. In this context, it is important for universities and technikons to understand the needs of their postgraduate students.

The overall aim of this study was to identify the perceptions of ex-Technikon Natal (now the Durban Institute of Technology) postgraduate students on their research experiences with regard to supervision, communication, the Technikon generally, availability of resources, finance, time, departments, faculties, research, research methodology, statistics, library and expertise. The particular focus was on postgraduate students registered at the Technikon Natal in 2001, whether or not they had submitted their research proposals. A postal survey was carried out to determine the students' perceptions of their research postgraduate experiences at the then Technikon Natal.

The results of the survey indicate that the majority of postgraduate students have a negative perception of the Technikon. Students feel that there are insufficient experienced supervisors available for consultation, leading to unacceptable delays. With regard to communication, students feel that the Technikon does not disseminate enough information on processes and procedures about postgraduate issues. Overall, students in the Health Sciences are more dissatisfied than students in the other faculties. In fact, the postal survey reveals that students in these other faculties are more positive than negative about their postgraduate experiences. However, it is worth pointing out that a large proportion of

Science and Engineering students (38%) are undecided on this matter. It is interesting to note that the open-ended comments section at the end of the questionnaire reveals far more negative perceptions than the closed questions. Students are dissatisfied about the lack of modern computer facilities and available funds. They also feel strongly that it takes too long to get a research proposal approved. The majority feels that a postgraduate information kit would assist greatly. Comments about Research Methodology as a subject are particularly negative with regard to statistics, and the course, which they feel is too general. Students do not seem to have any major difficulties with the library services.

The Technikon has to put structures in place to improve these negative perceptions and manage the students' needs. Combined with the impact of the merger of the former Technikon Natal and M.L. Sultan Technikon, the effects of which are not yet fully understood, the new Durban Institute of Technology should give serious consideration to the needs of its postgraduate population, especially in the Faculty of Health.

ABSTRAK

Globale tendense in die produksie en disseminasie van kennis blyk wêreldwyd 'n invloed op wetenskapsbeleid te hê en noodsaak universiteite (en ook teknikons in Suid-Afrika) om 'n groter markgerigtheid, mededingendheid en ondernemingsgees te openbaar. Hierdie globale tendense behels, onder andere, 'n verskuiwing na nuwe modi van kennisproduksie, sowel as 'n toename in finansiële en akademiese verantwoordbaarheid, en afstandsonderrig. Suid-Afrikaanse tersiêre instellings kan hierdie wêreldwye veranderinge in die landskap van hoër onderwys moeilik ontsnap. Daarbenewens het die demokratiese regering, wat in 1994 aan bewind gekom het, dit ten doel gestel om hoër onderwys in die land te transformeer. In 1997 het die eerste veranderinge ingetree met die publikasie van die Witskrif op Onderwys, en dit is in 2001 opgevolg met die totstandkoming van die Raad op Hoër Onderwys (CHE), die Hoër Onderwyskwaliteitskomitee (HEQC), en die Nasionale Plan vir Hoër Onderwys. Gevolglik het dit nodig geword dat hoër onderwysinstellings oorleg pleeg rakende die toekomstige verloop van voorgraadse en nagraadse onderrig- en opleidingsprogramme. Binne hierdie konteks is dit nodig vir universiteite en teknikons om begrip te hê vir die behoeftes van hul nagraadse studente.

Die oorhoofse doel van hierdie studie was om die persepsies te identifiseer van nagraadse studente aan die eertydse Technikon Natal (nou deel van die Durban Instituut vir Tegnologie). Die fokus was op studente se navorsingservarings met betrekking tot supervisie, kommunikasie, die technikon in die algemeen, die beskikbaarheid van hulpbronne, finansies, tyd, departemente, fakulteite, navorsingsmetodologie, statistiek, biblioteekfasiliteite en kundigheid. Studente wat in 2001 aan die Technikon Natal geregistreer was, is by die ondersoek betrek, ongeag of die student 'n navorsingsvoorstel ingedien het of nie. 'n Posvraelys-opname is gebruik.

Die resultate van die opname toon die meerderheid nagraadse studente het 'n negatiewe persepsie van die Technikon. Die studente voel daar is nie genoeg ervare studieleiers om te raadpleeg nie, en dit lei tot onnodige vertragings. Wat kommunikasie betref, voel die studente dat die Technikon nie genoeg inligting omtrent nagraadse prosesse en prosedures versprei nie. In geheel gesien, het studente in die Gesondheidswetenskappe 'n veel groter ontevredenheid uitgespreek as studente in ander fakulteite. In die ander

fakulteite was 'n geringe persentasie studente meer positief as negatief omtrent hul nagraadse ervaring. 'n Redelike persentasie studente in die Natuur- en Ingenieurswetenskappe (38%) was egter besluiteloos in hul opinie. Verder het die oop vrae aan die einde van die vraelys, wat kommentaar versoek, veel meer negatiewe as positiewe persepsies ontlok. Die studente is ontevrede met die gebrek aan moderne rekenaarfasiliteite en beskikbare fondse. Hul voel dat dit te lank neem om 'n navorsingsvoorstel goedgekeur te kry. Die meerderheid is van mening dat 'n nagraadse informasiepakket van groot waarde sou wees. Die kommentaar omtrent Navorsingsmetodologie as 'n vak is besonder negatief, veral wat statistiek betref, en hulle voel die kursus is te algemeen. Die studente blyk nie ernstige probleme met biblioteekdienste te hê nie.

Die teknikon moet derhalwe strukture in plek stel ten einde die negatiewe persepsies van die studente aan te spreek en hul behoeftes doeltreffend te bestuur. Tesame met die impak van die samesmelting (waarvan die effek nog nie ten volle begryp word nie), moet die instelling ook ernstige oorweging skenk aan die behoeftes van die nagraadse populasie, veral in die Fakulteit van Gesondheid.

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CHAPTER 1

BACKGROUND TO THE STUDY

1.1 Introduction

The emergence of new global trends in the production and dissemination of knowledge are influencing science policies worldwide and compelling universities and technikons in South Africa to become more market-oriented, competitive, and entrepreneurial (Clark 1998, Gibbons in Ravjee 2000). Some of these trends include changes in knowledge production sites, increased accountability, less funding and new modes of distance education. In the light of these developments, Gibbons has described the implications of these changes to civil society, industry, national systems of innovation and universities. With regard to implications for universities (and concomitantly, technikons - the focal point of this study), Gibbons declares:

“This trend contributes to the erosion of the monopoly the universities have enjoyed in providing training and granting educational credentials with good currency in the private sector.” (Gibbons et al, 1994:76)

The challenge to universities is how to use the knowledge produced in diverse contexts. This 'erosion' has already affected universities and technikons in South Africa in a number of ways and impacted on students and postgraduate students. It is important, therefore, that universities and technikons remain in close contact with students to establish their perceptions of the changes and the kind of support given to them by the institution regarding their postgraduate studies, the aspect of which is the focus of this study, viz., the perceptions of postgraduate students at Technikon Natal of their research experiences in 2001.

In South Africa, the government's National Plan for Higher Education with its focus on Redress, Equity and Transformation, together with the effect of global trends in higher education, has implications for postgraduate students, as we shall see (discussed in Chapter 2). Since 1994 the South African government has made concerted efforts to develop research capacity (National Plan for Higher Education, 2001:73). Statistics quoted by the Department of Education reveal that between 1992 and 2001 the growth rate of postgraduate technikon FTE graduations, by qualification level, went from 0.7% of the total graduate student population in 1992 to 10% in 2001 (education/pwv.gov.za).

Table 1.1 Growth rate of postgraduate technikon FTE graduations by qualification level (1992 – 2001)

	1992	1995	1998	2001
Total Student population	14 047	15 814	20 571	24 620
Postgraduate population	1	107	113	246
Graduations as % of total student population	0.7%	7%	5%	10%

(Source: CREST, University of Stellenbosch 2003)

This table shows negligible gains overall when compared to the numbers of undergraduate students at universities and technikons presently. Smit (2000:7), cited in Hunter 2002, states: "In 1997, postgraduate students constituted only 13% of total enrolments at universities and technikons in South Africa." Of these students, the majority were at universities.

Postgraduate numbers in South Africa remain a problem, with universities and technikons competing to increase student enrolments. This state of affairs continues despite the increase in previously disadvantaged undergraduate student enrolments, and increased funding by government funding agencies.

Of great concern, notwithstanding the government's efforts, is the economic plight of some students, especially previously disadvantaged students which creates a tendency for them to enter the job-market soon after completing a first diploma, resulting in fewer students pursuing research studies (Gihwala, 2001:26). Low throughput rates have also been reported by Smit (Hunter, 2002). These factors have a negative impact on the labour market and economic well-being of the country as a whole. The need to recruit and retain high-calibre students is imperative for South Africa's economic progress and contribution to the labour market.

The government's efforts at increasing research and research student numbers at technikons is demonstrated in the recently published research funding policy (Ministry of Education, 2002), which gives equivalence to universities and technikons for the first time in the history of our country in terms of research funds. This will no doubt result in stronger competition for students, particularly postgraduate students.

Science councils have generally increased grant allocations, especially to black postgraduate students. The National Research Foundation allocated R79- million for research capacity building in 2001. In addition, the NRF has added to its capacity-building programme portfolio a Scarce Skills Scholarship (funded by the Department of Labour) and Fellowship programme for final-year B.Tech, and for Honours, Master's, Doctoral or Postdoctoral study at South African universities and technikons. Despite these efforts, enrolments in Master's and doctoral programmes remain low, especially among technikon black students. Table 1.2 indicates that although there was a significant increase in the number of postgraduate students from 1992 to 2001, when compared to the total technikon population the increase is negligible. As far as gender is concerned, it is gratifying to note that the gap between male and female postgraduate students continues to taper.

Year	Male	Female	Total
1992	1000	500	1500
1993	1100	550	1650
1994	1200	600	1800
1995	1300	650	1950
1996	1400	700	2100
1997	1500	750	2250
1998	1600	800	2400
1999	1700	850	2550
2000	1800	900	2700
2001	1900	950	2850

Table 1.2 Technikon FTE enrolments by gender and by qualification level (1992, 1995, 1998, 2001)

1992 Technikon enrolments						
	Female	F%	Male	M%	Total	F/%T
Undergraduate	37853.98	98.57%	87325.92	98.62%	125179.9	30.24%
Postgraduate	2	0.01%	12	0.01%	14	14.29%
Other	546	1.42%	1206	1.36%	1752	31.16%
Total	38401.98	100.00%	88543.92	100.00%	126945.9	30.25%
1995 Technikon enrolments						
	Female	F%	Male	M%	Total	F/%T
Undergraduate	53331.96	97.46%	113659.9	98.38%	166991.9	31.94%
Postgraduate	107	0.20%	514	0.44%	621	17.23%
Other	1285	2.35%	1358	1.18%	2643	48.62%
Total	54723.96	100.00%	115531.9	100.00%	170255.9	32.14%
1998 Technikon enrolments						
	Female	F%	Male	M%	Total	F/%T
Undergraduate	84984.36	98.97%	110515	98.72%	195499.4	43.47%
Postgraduate	292	0.34%	657	0.59%	949	30.77%
Other	590	0.69%	781	0.70%	1371	43.03%
Total	85866.36	100.00%	111953	100.00%	197819.4	43.41%
2001 Technikon enrolments						
	Female	F%	Male	M%	Total	F/%T
Undergraduate	103917	98.18%	115253	97.50%	219170	47.41%
Postgraduate	995	0.94%	1578	1.33%	2573	38.67%
Other	935	0.88%	1373	1.16%	2308	40.51%
Total	105847	100.00%	118204	100.00%	224051	47.24%

(Source: education/pwv.gov.za, 2003)

In an article entitled "New initiative to support postgraduate students" in the *Mail and Guardian* dated August 3 to 9, Macfarlane reports that high dropout rates of postgraduate students are a cause for concern (Macfarlane, 2001:4). According to this report, the

transition from a relatively structured and supportive Bachelor level course to Master's or Doctoral study is daunting for many students. The report continues, "The University of the Western Cape (UWC) launched a comprehensive postgraduate support programme aimed at increasing the numbers of Master's and doctoral students." The university is concerned that the number of students graduating has decreased.

A review of international studies indicates that universities are increasing support for postgraduate students (Quigley and Knowles, 1995, John Moores University 1997, Guthrie and Trembath, 1998, Sekhon & Shannon, 1998, University of Melbourne 2001, Styles & Radloff et al, 2001). Some South African universities (for instance, Stellenbosch University and the UWC) are realising that additional postgraduate support is a necessity and, economically a sound decision to make.

With all the evidence on changes in global trends in higher education, the decreasing student numbers, increased support from science councils for needy students and the crisis in the labour market, it seems imperative that universities and technikons should strategise to attract larger numbers of postgraduate students, hence this study on the research experiences of postgraduate students at Technikon Natal¹.

1.2 Background

Many technikons are still operating under the collegiate model of institutional management. Decisions are made at senate level, which is the main body — the stronger the senate, the stronger the model of collegiate management (Groenewald, 2000). Corporate models of management, on the other hand, are responding to markets and moving into the entrepreneurial mode. Technikons could take the opportunity to move to the entrepreneurial or corporate model of management, to become more competitive and market-oriented and thus acquire the means, amongst other attributes, for a more aggressive approach to recruiting postgraduate students. Gibbons is convinced that universities have lost their monopoly in providing training and they need to become more competitive in order to attract students (Ravjee, 2000:13), hence the importance of this strategy.

If the institution is to be successful in recruiting postgraduate students, a strong research culture must be developed and nurtured. Historically, technikons were precluded from

¹ Since this research began in 2001, the former Technikon Natal and ML Sultan Technikon have merged to form the Durban Institute of Technology.

carrying out research, only becoming accredited to offer degrees in 1993. The Technikons Act passed by Parliament in 1993 made provision for technikon degrees. The Certification Council for Technikon Education (SERTEC) monitored the introduction of degrees at technikons, and research became one of the key areas of focus, its functions being to promote quality in higher education, to audit quality assurance mechanisms, and to accredit programmes in higher education. In recent times the Higher Education Quality Committee (HEQC) superseded SERTEC but its functions have not changed. Thus, quality remains an important element in the role of the Council on Higher Education (CHE) in the restructuring of higher education, making an impact on South Africa's twenty-one universities, fifteen technikons and numerous colleges (Strydom, Kay and Strydom, 2001:41).

The former Technikon Natal's top management was committed to research. As a result, the Centre for Research Development was established at Technikon Natal in 1993, one of its main aims being to encourage staff and students to undertake research, and for staff to improve their qualifications.

During the period of the writer's contact with postgraduate students since 1993, it has become evident that inculcating a postgraduate research ethos that seemed to be lacking in some departments could enhance the quality of the postgraduate experience. There are indications on many occasions that postgraduate students seem confused, with no clear guidelines available in some departments, and no 'home' or centre they could appeal to for practical information. Any brochures provided are often outdated and limited and there is no postgraduate website that gives students a complete overview of the processes they should follow when and after registering for a postgraduate qualification.

1.3 Problem statement

This study was conducted to establish the level of satisfaction of postgraduate students with their higher education experience at Technikon Natal, and ultimately, through institutional self-assessment, for the institution to provide a high quality research experience by way of recommendations provided by this study. No study of this nature had ever been undertaken at this institution previously, and it is not known whether, in fact, dissatisfaction has ever led a postgraduate student to withdraw from a programme.

When this study was first initiated in January 2001, the merger with M L Sultan Technikon was still in the discussion stage and the auditors Price Waterhouse were conducting a feasibility study. Since then, the merger has become a reality with the newly named Durban Institute of Technology officially opening its doors on the 1st April 2002.

Trends and shifts in higher education, particularly in South Africa, and the merger with ML Sultan Technikon have made a study of this nature a priority in the writer's opinion. Although this project was limited to Technikon postgraduate students in 2001, the results can nevertheless form a discussion document for consideration in the new Institution.

It is anticipated that this type of study will elicit a response from the Technikon which will result in students having a richer and more satisfying research experience. The research undertaken is a survey of the postgraduate students' research experience, and is an attempt to explain their needs.

Postgraduate research issues are addressed via key concepts that were identified in the preliminary stages of the research, i.e., the literature review, face-to-face interview, focus group and pilot survey. The main themes identified are:

- **Supervision**

Includes supervisors' level of knowledge of students' research area, access to supervisors, feedback received from supervisors, etc.

- **Institutional Support**

The degree of support a student receives from the Faculty, Department, resources and infrastructure, funding, and expertise available.

- **Communication**

This section determines whether students receive sufficient information from the institution regarding changes in processes and structures.

A preliminary reading of the literature indicated that prior to 1992 very little research had emerged in the area of the postgraduate research experience (Mullins, 1997:2). Subsequently a series of conferences emanated from Australia, indicating that an increase of interest in the field was emerging and it became acknowledged as an important area for research. Postgraduate supervision was particularly recognised as an important

component of the entire postgraduate research experience (Mullins, 1997, Mullins & Kiley, 1998, Guthrie & Trembath, 1998, Sekhon & Shannon, 1998, Styles & Radloff, 2001).

It is believed that South African postgraduate students' problems are similar to those of their counterparts in other parts of the world and for that reason the research question was formulated as follows: "How do we know that we are offering the postgraduate research student a quality experience?" Conducting a postal survey on approximately 260 postgraduate students was deemed the best way to answer this question.

1.4 The overall aim of the study

The overall aim of this study was to identify the perceptions (dependent variable) of ex-Technikon Natal postgraduate (2001) students of their research experience (independent variable) with regard to key issues, which were identified and then included in the final survey. As no similar study had been carried out at the former Technikon Natal, this study was regarded as exploratory.

1.5 Objectives

More specifically, the following were defined as the research objectives and research questions of the study:

The quality of supervision

To describe students' current perceptions of supervisors and supervision to see the impact on students' research experiences:

- Does the student receive regular feedback on his or her progress from the supervisor?
- Does the supervisor have a good knowledge of the student's research area?
- Are there regular meetings between the supervisor and the student?

Issues like access to the supervisor and time spent with the supervisor are perceived as measures of support, and it seems reasonable to conclude that they have an impact on the quality of the research experience.

Communication

To identify the strengths and weaknesses in the institution's communication system with regard to postgraduate students. For example:

- Are issues relating to intellectual property understood and is information freely available?
- Is the library service adequate?
- Are postgraduates well informed about the thesis/examination process?
- Are there networks and contacts with outside organisations?
- Are students aware of what is going on, who does what, and where to find things?
- Are there guidelines on how to proceed when a student first registers?
- Are departments and faculties well informed about postgraduate issues?

Communication procedures between department/student, faculty/student, and department/faculty were examined. A well-informed student is arguably a more organised student. Communication includes aspects of current procedures (for new students) and new procedures (for current and new students) or changes in procedures such as changes in the institution's G. Rules (General Rules). A new postgraduate student might be well informed about all aspects of his or her postgraduate studies and not require an orientation programme. Conversely, if the information available is insufficient, an orientation or induction programme for a new student might be advantageous. The registration process in 2001 at Technikon Natal was de-centralised to the Faculties. The length of time it takes to register, the amount of information available on registration and guidelines on how to proceed once a student has registered is important and could impact on the research experience. These are mainly communication issues, on which the students were asked to comment.

Funding

- To assess whether students have sufficient funding to successfully complete their studies.

The amount of funding from the institution and additional funding from external sources seems to have an impact on student numbers and the length of time they take to complete their studies. Another funding issue is related to the time it takes for students to gain access to funds once the institution has approved them. Being able to draw up a research budget is also an important issue, another on which students were questioned.

Facilities and equipment

- To evaluate the adequacy of facilities and equipment.

For instance, having a dedicated computer room, sufficient software, sharing of resources, functional working space, and adequate technical support might impact on a student's overall performance.

Departmental support

- To assess the extent of departmental support given to postgraduate students.

Some departments at the then TN seemed to be far more supportive than others. Departmental support might include social contact with other postgraduate students, ambience in the department, monitoring of progress, frequency of workshops and seminars and the research ambience, for example. Departments may participate in research to a lesser or greater degree and it might be that departments that participate more produce more satisfied students.

Faculty support

- To ascertain whether students' needs are being adequately catered for in their faculties.

The level and extent of academic expertise available in a faculty and organisation within the Faculty Office with regard to research administration might be indicative of the amount of support available.

Academic staff

- To assess availability of expertise and academic staff.

Approximately 30% of academic staff at the former Technikon Natal have Master's degrees or higher (Institutional Profile, 2001). There were 283 postgraduate students registered in 2001. In 2000 there were 75 postgraduate student members of staff registered for a Master's degree or higher. The question arose: Is there sufficient expertise available at present to supervise these students?

Technikon Natal support

- To explore the level of satisfaction of postgraduate students generally.

Issues of time

- To ascertain whether students are satisfied with the time allowed for completing their studies.

The time factor seems to affect a number of areas: There seems to be a general feeling amongst staff that there is insufficient time to carry out research:

“In terms of what I found, support from the Technikon itself has been very very poor in terms of giving me time to devote to studies because I have a very full time-table.”

Another time issue is whether the official period of candidature for the completion of postgraduate studies is sufficient. The time it takes for a Research Proposal to be accepted is also a very important issue.

1.6 Survey design

It was decided to concentrate on current students who were on the registration database in 2001. This empirical research was carried out by means of a postal survey.

The survey design consisted of three parts, namely:

1.6.1 Face-to-face and focus group interviews

A face-to-face interview was conducted with one postgraduate student to establish the general factors influencing this student's perception of the postgraduate experience to assist in the development of the questionnaire. The student's name was removed from the final study. A summary of the taped interview is attached as Appendix A.

In November, a focus group study was conducted, consisting of seven postgraduate students from TN registered in 2001. Two participants were female and five were male. The two female students were staff members and the four males were members of research centres. All their names were removed from the final study. The focus group study augmented the information already gathered during the literature review and face-to-

face interview for the construction of the pilot questionnaire. The Focus Group consent form is attached as Appendix B. Appendix C is a summary of the Focus Group results.

1.6.2 Pilot survey

Six postgraduate students participated in the pilot survey. One was an academic staff member from the Arts Faculty (Education); two were from different Research Centres in the Faculty of Science & Engineering; two were from the Faculty of Health and one postgraduate student was recruited from the Faculty of Arts. These students did not participate any further in the study and did not complete the final questionnaire. All comments were recorded and utilized to clarify or modify ambiguous questions; some questions were deleted and others were added. The results are discussed in Chapter 4. The pilot survey is attached as Appendix D.

The data from the face-to-face and the focus group interviews, pilot study and data from the literature review provided the questions for the final questionnaire.

1.6.3 Postal survey

A postal survey was conducted to establish the perceptions of postgraduate students registered at TN in 2001. The number of Master's and doctoral students registered on the Technikon Natal database for the year 2001 was 283 when the data was requested in May 2001. Subsequently, three more students registered in 2001 but were not included in the study. A further four students either withdrew or had not been active since 2001. These were also excluded from the study, leaving 279 students, of which 13 who had participated in the face-to-face interview, focus group and final study were also excluded. The final sampling frame of 266 postgraduate students was further diminished by another 25 students (Table 3.1. page 63) bringing the final sampling frame to 241, with a return rate of 103 questionnaires (43%). The results of this survey are discussed in Chapter 4 of this study. The survey questionnaire is attached as Appendix E.

1.7 A definition of terms

1.7.1 Postgraduate student

For the purposes of this study a postgraduate student has been defined as a Master's or doctoral student who was registered for a higher qualification at TN in 2001, full-time or part-time, whether or not he or she has submitted a Research Proposal.

1.7.2 Supervision

For the purposes of this study, academic supervision is defined as 'overseeing the successful completion of the postgraduate theses'. As Mouton explains:

"There is widespread consensus in the literature that the supervisory role implies at least four different responsibilities or roles on the part of the supervisor."

They are "to advise, to guide, to ensure the required scientific quality is achieved and to provide the required emotional and psychological support when needed." (Mouton, 2001: 17). In addition, a supervisor should have good interpersonal and communication skills, and sufficient time to spend with a student.

1.7.3 Communication

A practical view of communication in this study is the degree of accuracy and frequency of information transfer between the institution and the recipient. In this case, communication has to do with the transfer of information about administrative procedures and academic instruction, including supervision.

The following definition seems to encompass all the elements required for a student to be fully informed about procedures:

"...the process of expression...the process of imparting ideas – between a communicator and recipient, with the aim of arriving at mutual understanding on certain subject-matter" (de Wet J.C., 1991:1).

1.7.4 Quality

Neale, in *Quality in Postgraduate Research*, has described quality as "fitness for purpose" but she suggests that a more accurate definition would be when the following questions concerning quality are posed:

"What are you trying to do and why, how and why are you doing it, why do you think it is the best way of doing it and finally how do you know?" (Neale, J. 2000:69).

Although Neale's questions are subjective, they appear to capture the essence of what quality in postgraduate research is in this study.

1.7.5 Previously disadvantaged student

Under the apartheid government there was an inequitable distribution of access and opportunity for students of primary, secondary and tertiary education along racial lines. Students entering universities from under-equipped and under-resourced schools are regarded as having been at a disadvantage, thus the term "previously disadvantaged" students was coined. These students often require foundation courses to ease them in the mainstream of university scholarship. The need for transformation in higher education stemmed mainly from these deficiencies in the old system (National Commission on Higher Education, 1996).

1.8 Outline of the thesis

Chapter 2 – Literature Review

In Chapter 2, the literature is discussed in terms of the broad theme 'quality' in the postgraduate experience and the theoretical framework that has informed the study.

Chapter 3 – Research Design and Methodology

The research design and methodology for the research are discussed in this section.

Chapter 4 – Presentation of Results

Discussions and presentation of results are contained in this chapter.

Chapter 5 – Conclusions and Recommendations of the Study

In this chapter the recommendations of the study are given.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The review of the literature is aimed at contextualising the need for greater attention to the management of postgraduate studies in South Africa. The first three sections of the chapter cover recent developments in South African higher education policy and their relationship to postgraduate studies and the role of the National Research Foundation. In the second section, recent trends in the Technikon sector which also point towards reasons for giving more attention to postgraduate studies are discussed. Finally, some international studies showing shifts in modes of knowledge production (the “Gibbons thesis”) and their implications for the management of postgraduate studies are examined. Section 4 of the chapter is devoted to a discussion of some international studies, which have focused on the problems and challenges facing postgraduate students worldwide as well as a brief overview of some of the interventions that have been developed to address some of these concerns. The final section of the chapter is devoted to a discussion of recent South African (empirical) studies that have investigated trends and dynamics of postgraduate studies in this country.

2.2 Overview of recent trends and shifts in South African Higher Education

South Africa’s new democratic government took power in 1994, and in that same year the Department of National Education changed to the Department of Education. The DoE introduced major changes in educational policy, the most significant of which was the publication of the White Paper on Education in 1997 that would eventually determine government policy as set out in the National Plan for Higher Education. The Council on Higher Education (CHE) was established in 1997 to assist with the implementation of policy, and the Higher Education Quality Committee (HEQC) was consequently established as a sub-committee to aid the CHE. A discussion on each of these developments and how they affect(ed) postgraduate education provision in general and the former Technikon Natal in particular follows.

2.2.1 South Africa’s White Paper on Education

The vision of the White Paper was to introduce a programme for the transformation of higher education into a single co-ordinated system that would address key issues like structure and growth, governance and funding of education. The release of the final

Education White Paper 3 (South Africa, Department of Education 1997) was the result of a wide-ranging process of consultation and investigation with stakeholders in government and higher education. In a covering letter to the White Paper 3, the then Minister of Education, Professor M.E. Bengu, stated:

“The transformation of the higher education system to reflect the changes that are taking place in our society ... (are) not negotiable. The higher education system must be transformed to redress past inequalities, to serve a new social order, to meet pressing national needs and to respond to new realities and opportunities.” (White paper, 1997)

The Minister's statement alerted stakeholders to the fact that the changes in higher education would have an unprecedented impact on education in general, and (the particular focus of this study) postgraduate studies and students in South Africa.

The White Paper highlighted the need for institutions to urgently address issues like equity of the student body and staff, improve quality for endorsement by SERTEC (now HEQC), scrutinize admission and selection procedures, and provide foundation courses and mentoring where necessary for previously disadvantaged students. Language policy, research and capacity building for students and especially academic staff and human resource development came under scrutiny. In line with the White Paper, Research Capacity Development (RCD) became one of the main mandates of the National Research Foundation (NRF). The various programmes and initiatives within the NRF are aimed at the development and support of people, infrastructure, facilities and systems (Technikon Research Development Programme, Manual for 2002:3).

The White Paper also advocates self-governance with “the transformation of councils through a participative democratic process involving all relevant and recognized stakeholders” (White Paper, 1997). Self-governance implies increased accountability.

The White Paper also sets out a new public funding formula. The formula is in the form of block grants payable on the basis of planned full-time equivalent (FTE) enrolments in different fields and levels of study, which is related to institutional missions and plans. The three-year rolling plan that institutions were required to produce in 2001 provides important prerequisites for achieving maximum funding, and will no doubt compel institutions to procure their student enrolment targets, race and equity goals, human resource

development plans, new programme development, academic development, research development and infrastructure development. The funding formula includes the cost of teaching students from inadequate educational backgrounds, by offering foundation and extended programmes to promote academic development. Further to the White Paper in 1997, the Ministry of Education's discussion document *Funding of Public Higher Education: A New Framework* (March, 2001) contained the proposal that research subsidies should be based on research outputs in future, with funds earmarked for specific development purposes. This will encourage tertiary institutions to increase their research outputs, as they will no longer be able to rely on the 'blind' research element they received in the past whether or not they engaged in research activities. The revised framework, published in November 2002, set out the allocation of government funds for 2002/3 according to provisions of the new framework. According to this document, future research output subsidies will be based on publications, Master's and doctoral qualifications weighted as follows:

- | | | |
|------------------------------|---|-----|
| • Publication Unit | → | 1.0 |
| • Research Master's graduate | → | 1.0 |
| • Doctoral graduate | → | 3.0 |

Non-research Master's graduates are to be counted as teaching outputs and extra funds will be allocated to specific institutions for increases in research outputs (Ministry of Education, 2002:10). The Ministry of Education's document thus strengthens the White Paper's intention to earmark funding for research capacity development.

In summary, the emphasis in the White Paper and subsequent documents is on:

- Increased and broadened participation (the result of which will increase competition between technikons, universities, distance learning institutions and 'fly-by-night' colleges to attract students. The NCHE predicted that there would be a 4–10% increase in growth but in fact it has dropped to less than 2% {Groenewald, 2000}).
- Responsiveness to societal interests and needs.
- Co-operation and partnerships in governance.

The next section describes the role of CHE in the transformation of Higher Education.

2.2.2 The CHE and the HEQC

The Council on Higher Education is an independent body established in 1997. Its mission is to contribute to the development of a higher education system characterised by quality, responsiveness, equity, and effective and efficient provision and management (http://education.pwv.gov.za/che/about/full_document.htm, 1998).

The role of the CHE is to advise the Minister of Education on higher education issues through the quality assurance activities of its HEQC, and through the publication and dissemination of information on developments in higher education. In the context of this study then, as it relates to postgraduate students, the most important tasks of the CHE are the design and implementation of a system for quality assurance in higher education. The CHE is also responsible for formulating advice to the Minister on a new academic policy for higher education, including a diploma/degree structure, which would advance the policy objectives of the White Paper (<http://education.pwv.gov.za/CHE/ARContents2000>). These tasks, once completed, will contribute significantly to the transformation process, and the quality of postgraduate research.

In 1999 the CHE presented a memorandum to the Minister of Education *Towards a Framework and Strategy for Reconfiguring the Higher Education System in South Africa: Recommendations and Advice*. In January 2000 the Minister accepted in principle the recommendations of the CHE. Since its conception the CHE has been involved in a number of activities. The basic proposals that are pertinent to this study are summarized below. They are:

Shape and Size of Higher Education

The publication of the Size and Shape document in July 2000 evoked strong and negative reactions from tertiary institutions. According to education reporter Krisendra Bisetty "far-reaching proposals to transform the South African higher education sector have been met with scepticism, concern and even outrage by academics, tertiary education managers and commentators" (*Daily News* August 22, 2000). It was felt that while the document had many useful ideas, comments and observations, it was largely impractical. There seemed to be general agreement that the number of higher education institutions receiving public funding should be reduced, but the proposal that there should be different types of "Research University" (and the criteria for determining the status of these) led to alarm from many quarters. Technikons in particular were worried about being downgraded into

“bedrock” institutions with the concomitant downgrading of accreditation for postgraduate qualifications. This section of the Size & Shape document has been superseded and technikons will retain their status quo for another three years at least, although downgrading of accreditation for postgraduate qualifications remains a bone of contention. Mergers will soon become a reality for most institutions and if some technikons’ academic programmes are curtailed, the institutions’ postgraduate aspirations will suffer if students leave to go to universities.

Academic Policy

In September 2000 the CHE decided, after consultation with task teams, that they needed a new comprehensive academic policy document that integrated university and technikon qualifications which would address:

- The definition and purpose of each qualification.
- Rationale for the extended Bachelor’s degree and resolving the function of the Honours degree (if this is supported).
- Research requirements for higher degrees.
- Integrating the qualifications for educators.
- Stipulating the naming conventions for all HET (Higher Education & Training) qualifications; a rationale for the pegging of qualifications on particular National Quality Framework (NQF) levels.
- A rationale for minimum and maximum credit ratings and entry and exit levels for each of the recognized qualifications.
- Policy on the accreditation of experiential/service learning.
- Policy on short courses and unit standards.
- How the new qualification structure will link the processes of registration, accreditation and funding.

(<http://education.pwv.gov.za/CHE/ARContents2000/Activities/Majoractivs.html>).

In July 2002 the Ministry of Education published the Approved Academic Programmes for Universities and Technikons: 2003–2006 (South Africa. Department of Education, 2002). The document demonstrates that the restructuring process and merger proposals will have major implications for universities and technikons. The most disturbing aspect was the Ministry’s intention to withdraw from technikons permission to award certain degrees. In particular, the former Technikon Natal had its permission to award doctoral degrees in fine

arts, accounting, civil engineering, mechanical engineering, all health sciences, industrial arts, literary studies, public administration, physical sciences and social sciences withdrawn (p.26). An excerpt of the response to the Department of Education from Professor A L. du Preez, Deputy Vice-Chancellor: Academic, DIT expresses his deep concern:

“The withdrawal of these qualifications could have serious consequences for the institution and postgraduate students. The M.Tech students might choose to withdraw their registration since there will be no progression to the D.Tech. There is also no guarantee that universities will accept these students for doctoral studies should they complete the M.Tech at the Technikon.”

The implications are clear — with technikons on the brink of showing the benefits of the past nine years of support, their activities are now in danger of being curtailed. In a personal communication, Ms Paulette Powell (Academic Quality Unit, TN) informed the writer that the Deputy Vice-Chancellors of other technikons were preparing a joint response to the Approved Academic Programme (Powell, 2002). If technikons are curtailed in their offering of doctoral degrees in the future, there is a likelihood that NRF programmes like the TRDP (Technikon Research Development Programme) will cease and senior lecturers and students will gravitate towards universities. In some cases the reason for the withdrawal of programme approval on the grounds of low postgraduate and throughput rates is valid, but the situation is improving, and technikons clearly need more time to catch up to universities in view of their past history. What is confusing is that while the government has actively encouraged, promoted and imposed research on technikons - as evidenced in the new funding formula for research and the NRF support programmes - it has withdrawn approval for certain doctoral programmes in the former TN departments where there has been capacity building. For instance, Mechanical Engineering has a strong NRF recognized research unit, and the DoE has withdrawn permission to award doctoral degrees in that department. The DoE document reads: “The impending mergers could produce duplications and omissions in present academic programmes and adjustments will have to be made to enable the development of clear institutional niches.” In the light of this, and the low doctoral graduations recorded at technikons, their decision seems justified. However, it is believed that more time and research needs to be done where departments show promise (as indicated by current B.Tech enrolments).

Quality Assurance and the HEQC

The work of the HEQC, in carrying out its mandate of giving effect to the NQF is subject to the requirements of the South African Qualifications Authority (SAQA). The functions of the HEQC, according to the Act, are:

- To promote quality assurance in Higher Education.
- To audit the quality assurance mechanisms of Higher Education institutions.
- To accredit programmes of Higher Education.

The most important factors regarding quality assurance and its relation to this study are:

- The establishment of Sector Education Training Authorities (SETAs) and the development of quality assurance programmes by potential SETA Education and Training Qualifications Authorities (ETQAs) intending to cover qualifications in the Higher Education band.
- An increase in the range and scope of private provision in Higher Education.

(<http://education.pwv.gov.za/CHE/ARContents2000/Activities/Majoractivs.html>)

These two factors could lead to the establishment of research niche areas and the development of different programme mixes for qualification purposes at technikons, thus widening postgraduate opportunity for study, and increasing collaboration with private tertiary institutions.

The most recent HEQC discussion document, published in March 2003, *Criteria for the quality management of postgraduate education* (ii) has positive implications for the management of postgraduate students, as shown in Table 2.1: Criteria for postgraduate education, reproduced overleaf:

Table 2.1 Criteria for postgraduate education

<p>Criterion 1</p> <p>SUB-AREA: MANAGEMENT OF POSTGRADUATE EDUCATION</p> <p>CRITERION: The institution has policies, structures and procedures for supporting and improving postgraduate education.</p>
<p>Criterion 2</p> <p>SUB-AREA: EFFECTIVE SUPERVISION</p> <p>CRITERION: The institution has policies, systems and regulations to support and monitor postgraduate supervision.</p> <p>In order to meet the criterion, the following are examples of what would be expected:</p> <ul style="list-style-type: none"> (i) The institution has regulations governing the relationship between supervisors and postgraduate students. There are clear mechanisms for complaints and appeals. (ii) The institution has monitoring mechanisms to check the progress of postgraduate students. (iii) The institution has available codes of practice or guidelines for supervision. (iv) Training and development opportunities for new supervisors are available.
<p>Criterion 3</p> <p>SUB-AREA CAPACITY DEVELOPMENT</p> <p>CRITERION: The institution has policies, structures and resources to support postgraduate development.</p>
<p>Criterion 4</p> <p>SUB-AREA: ASSESSMENT OF POSTGRADUATE RESEARCH</p> <p>CRITERION: The institution has clear criteria and procedures to assess Honours, Master and PhD theses, which are based on external examination.</p>

The next section will describe the most important aspects of the National Plan for Higher Education.

2.2.3 National Plan for Higher Education

The National Plan for Higher Education was finally published in February 2001 and outlines the framework and mechanisms for implementing and realising the policy goals of the White Paper. Central to the vision of the transformation of higher education was the establishment of a single, national co-ordinated system “which would meet the learning needs of our citizens and the reconstruction and development needs of our society and economy” (Professor Kadar Asmal: National Plan for Higher Education, 2001:2).

The most important goals of the National Plan for Higher Education in terms of this study are:

- An increase in participation rates in higher education.

In order to attain this goal, it is necessary for institutions to be familiar with the expectations of postgraduate students, which makes a study such as this especially important.

- Changes in the demographic composition of the student body to reflect the composition of the population, in under-represented areas, especially in postgraduate programmes.

This study has revealed that this has occurred in the undergraduate to B.Tech level population, but not the postgraduate population.

- Equity of outcomes, with less failure rates by Black students.

Unknown at the former Technikon Natal at this stage because of the current small numbers of black postgraduate students.

- The proposal that the differentiation between technikons and universities is maintained for at least another five years.

This could be both an advantage and a disadvantage to technikons: an advantage in that technikons are not judged in the same way as universities in terms of their research output because of their relatively late start, but a disadvantage in terms of being at risk of being downgraded later on.

- The lifting of the moratorium on the introduction of new distance education programmes in contact institutions.

This will mean both increased opportunities and increased competition. For instance, resource-based teaching and learning is a new trend, which might result in little face-to-face contact in the future. There used to be 150 teachers in training colleges in South Africa, and now there are only 30 (Groenewald, 2000). It must be noted that technikons and universities are also offering students wider choices on subject areas, distance education and virtual classrooms. The former Technikon Natal's On-Line Learning Centre teaches web-based learning to ensure that academic staff is at the cutting-edge of competency, a skill that enhances the institution's resources for attracting more postgraduate students.

- The separate component for research in the new funding formula will ensure greater accountability.

The funding for research will be based on research outputs (including postgraduate students). Funds will also be allocated for capacity building. The new funding formula should be welcome to technikons but only if they increase their research outputs considerably. In the past, technikons received less funding for research than universities. Obviously increased funding could be used to attract more postgraduates.

- The planned mergers.

The former Technikon Natal and ML Sultan Technikon were the first South African tertiary institutions to merge on the 1st April 2002. Since then, the new institute has had to deal with the problems associated with the merger shifts. Professor Padayachee (the then Special Assistant to the Vice Chancellor: Merger and Academic Planning) identified a number of complex and sometimes covert stressors experienced by mergers (personal communication, 16th October 2002). In an unpublished paper on mergers and the human cost factor presented at other institutions that are in the process of merging, Padayachee argues:

"People get distracted from doing their jobs, when they preoccupy themselves with searching for information regarding what the merger means for themselves and their careers. They huddle in staff rooms and offices spreading the latest merger gossip, which, invariably, is far more damaging to the organization than would be the truth. They tie up telephone, e-mails and fax machines checking in with friends from various institutions and organisations who may know of job openings and sending out their curriculum vitae to recruiters" (Padayachee, 2002:3).

The impact of the merger on postgraduate students at Technikon Natal is unknown at this early stage but the disruption in the whole system has impacted negatively on staff numbers and expertise, disruptions in locality (re-locating from campus to campus) leading to a waste of time and confusion, cut in budgets (the library has had a moratorium on the purchasing of new books, which could seriously curtail academic and postgraduate progress).

There has been loss of security and job uncertainty. Immediately after the merger there were changes in reporting, changes of location, colleagues and co-workers. These changes have led to low staff morale, poor productivity and divided loyalty. Added to that, the lack of communication from management and financial chaos has led to the spread of rumours on an unprecedented scale.

Shortly after the merger, VEPs (Voluntary Exit Packages) were offered to all staff at the Durban Institute of Technology (DIT). Professor Dan Ncayiyana, Vice Chancellor: DIT, writes: "The intention of the VEP is to cut the salary bill from around 81% of the budget to 65%. The incentive to have people voluntarily leave is just so that the DIT can survive financially" (Ncayiyana, August 2002:3). He continues: "if someone wants to take up the offer, they should be free to do so. The only riders are that we are compelled to retain certain individuals for operational reasons and on the basis of diversity and equity imperatives...We are really struggling in terms of financial sustainability...We may not survive otherwise. I am fully mindful of the risks involved and am very careful that the academic programme is not compromised in any way" (Ncayiyana, September 2002:3).

The institute is losing many experienced academics despite the assurances that the academic programme will not be compromised. An unwelcome by-product of the VEP is that the people who opted for taking the package, the outcome of which was announced in September, only physically left the DIT at the end of December 2002. It stands to reason that these people had little or no interest in the future welfare of the new institution.

The foregoing changes set out by the National Plan could present many opportunities for postgraduate students such as an increase in the number of scholarships available (especially for black postgraduates), more funds for research, opportunities for diversity (distance education and new programme mixes). Future mergers may also increase opportunities for developing new research niche areas and partnerships. New academic programmes and qualification mixes could be a golden opportunity to strategise and plan for the recruitment of more postgraduate students.

The goals in the National Plan that are explicitly directed to research and postgraduate studies are:

- To increase outputs of postgraduates especially at Master's and doctoral level.
- To increase research output.
- To sustain existing research capacity and build new centres of excellence where there is demonstrable capacity.
- To facilitate collaboration and partnerships, especially at regional level in research and postgraduate work.
- To promote articulation between different parts of research system with a view to developing a national research strategy (National Plan for Higher Education, 2001).

Concluding comments: In this section it was shown that changes in HE in South Africa heralded by the White Paper, the roles of the HEQC, CHE and its policies like the Size and Shape of HE, and the National Plan had wide implications for higher education.

The next section demonstrates how the changes in the recent history of technikons (through the promulgation of the Technikon Act 1993) and special funding programmes (such as the NRF's Technikon Research Development Programme) have been instrumental in prioritising technikon research and therefore also postgraduate studies.

2.3 Technikon research in South Africa

Technikon research in South Africa has its own peculiar history. This has resulted in demands on technikon postgraduate students that would not necessarily apply at a university. For example, the practical nature of the research and the existence of co-operative education have implications for students.

By way of introduction, attention is called to the fact that technikons, because of their history, are still lagging behind universities as far as research is concerned. In 1996 the Foundation for Research Development (FRD) - now the National Research Foundation (NRF) - carried out a survey on factors affecting the quality of research at South African universities and selected technikons. The survey revealed that, generally, technikons do not have the research infrastructure and facilities that universities have, resulting in frustration with the lack of progress in building research capacity (FRD, 1996). Thus, the binary divide between universities and technikons, whereby universities in South Africa are seen as custodians of academic, basic and fundamental knowledge, and technikons are seen as dispensing more practical, vocational and applied knowledge, has not yet been resolved (Groenewald, 2000).

The reasons for these differences are mainly historical. Therefore a brief discussion on the development of technical education follows to show how modern day perceptions about it emerged and impacted on students and postgraduate students - and continue to do so to this day.

2.3.1 Technikon history

Erasmus (2002) is currently researching research at technikons within the context of a changing higher education landscape. As she explains, the development of technical and technikon education was largely determined by societal and industrial needs influenced by the discovery of gold and diamonds in South Africa in the nineteenth century. Technical education was based on the English system and "during this period a process of differentiation evolved between vocational and technical education".

From about 1924 to 1947 technical educators experienced certain problems in the form of "overlapping functions" with the university sector evidenced by the fact that the Natal Technical College attempted to offer technology degree courses, leading to the perception

that technical colleges had university pretensions. The Second World War had a positive influence on the development of technical colleges because of the large number of apprentices the country suddenly required. Eventually, as a result of the advanced Technical Education Act, No. 40 of 1967, the status Colleges for Advanced Technical Education was granted to four technical colleges, Natal being one of them.

In 1978 technical colleges became known as technikons and the Association of Colleges for Advanced Technical Education was renamed the Committee of Technikon Principals. The concept of a six-year diploma containing a research component was introduced by the Goode Commission report in 1979 – the first indication of research relating to technikons. Research, however, was to be conducted by staff and not by students to lead to higher qualifications. During the period 1985 - 2002 in Technikon history:

“...the tasks and goals of Technikon education were defined and the tertiary nature and career orientation of Technikon education became pertinent issues” (Erasmus 2002).

Changes in higher education and an increased awareness of social responsibility resulted in the implementation of the National Qualifications Framework (NQF). The new political awareness from 1994 heralded further changes as indicated in the Green and White papers on Higher Education. Erasmus continues:

“The tertiary nature of technikon education is a feature that continuously receives attention. The difficulty in clarifying this concept is historical, due to the link with the process of pitching the type of education provided by the sector between the level of the artisan and that of the professional engineer educated by the university sector. Among the outstanding features of technikon education is the feature of the practising and promotion of technology” (Erasmus, 2002).

Erasmus has shown that the difference between university and technikon education has its roots in the history of technikons, and for this reason students and postgraduate students graduating from technikons have an added perspective to their degrees, that of practical experience.

By way of explanation, technikons, unlike universities, provide co-operative education opportunities to students as part of their career-based foci. Technikon education is aimed towards training students for an occupationally-directed career. The co-operative

education model places great emphasis on interaction between the student, the employer, and the institution. The key to a career-based education is the experiential learning which students are required to undergo to gain experience in real-life situations. The advantage for students is that they gain practical knowledge and exposure to problems in industry where they can apply the theoretical knowledge they gain at the institution. They also become more sensitised to a wider variety of career and employment opportunities and as a result are able to make informed decisions about their future employment (TN Co-operative Education Unit brochure, 2002). Another advantage is that they become familiar to prospective employers and so have an added benefit when seeking employment. On the other end of the scale, employing students is beneficial for employers because they are supplied with a reliable source of motivated, eager and intelligent young graduates (TN Co-operative Education Unit brochure, 2002). Postgraduate students at technikons who have been fortunate enough to undergo experiential training could therefore arguably have a competitive edge on their university counterparts.

2.3.2 Nature of research at technikons

The establishment of SERTEC (Certification Council for Technikon Education) in 1986, the introduction of funds for research as a separate subsidy component, and the fact that research outputs received recognition for state subsidies in 1991, put research at technikons firmly on the map, culminating in technikons being awarded degree status in 1993. This status committed technikons to research. As Lombard explains:

“The granting of degree-awarding powers...obliged the technikons to perform research” (Lombard 2002: 3).

As a broad definition, it can be stated that universities carry out mainly basic research and technikons, mainly applied.

The Table overleaf illustrates the growth of technikon research over an 11-year period.

Table 2.2 Research Outputs of Technikons (1991 – 2001)

TECHNIKONS	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Historically Disadvantaged Technikons											
BORDER	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.40	2.00	0.00
EASTERN CAPE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.04	1.00
MANGOSUTHU	1.00	2.50	0.00	0.00	0.23	0.00	1.00	0.00	1.00	0.00	1.00
M L SULTAN	0.08	1.50	0.50	1.00	0.00	0.06	2.80	5.06	7.00	5.59	17.40
NORTHERN GAUTENG	2.00	0.00	0.00	0.00	0.00	2.00	4.00	3.00	3.00	3.00	6.00
NORTH-WEST	0.00	0.00	0.00	0.00	0.00	5.00	3.00	2.00	2.30	2.00	1.00
PENINSULA	3.21	3.53	2.50	1.50	2.50	3.25	1.50	8.65	9.00	5.50	7.30
SUB-TOTAL	6.29	7.53	3.00	2.50	2.73	10.31	12.43	18.94	22.70	18.13	33.70
PERCENTAGE OF TOTAL	26.74%	23.40%	5.44%	3.66%	4.43%	9.04%	13.41%	14.30%	15.80%	11.16%	21.96%
Historically Advantaged Technikons											
CAPE	6.24	4.99	24.81	19.78	14.91	29.39	17.78	17.18	12.00	10.62	12.61
FREE STATE	1.28	1.83	2.58	9.34	7.22	17.52	8.32	14.68	11.00	12.62	8.49
NATAL	0.00	0.00	5.88	8.54	7.21	14.72	9.13	17.90	20.30	26.35	20.12
PORT ELIZABETH	3.13	7.06	2.48	10.50	6.92	14.38	8.36	17.99	30.00	18.53	21.54
PRETORIA	6.58	9.27	9.88	8.56	16.80	11.08	20.62	17.06	22.00	47.01	40.65
SA	0.00	0.00	2.00	3.66	4.83	13.00	9.71	10.55	14.00	9.33	0.00
VAAL TRIANGLE	0.00	0.00	4.53	4.47	0.00	1.50	1.50	3.00	6.00	10.78	8.94
WITWATERSRAND	0.00	1.50	0.00	1.00	1.00	2.17	4.83	15.17	5.69	9.14	7.40
SUB-TOTAL	17.23	24.65	52.16	65.85	58.89	103.76	80.25	113.53	120.99	144.38	119.75
PERCENTAGE OF TOTAL	73.26%	76.60%	94.56%	96.34%	95.57%	90.96%	86.59%	85.70%	84.20%	88.84%	78.04%
TOTAL:	23.52	32.18	55.16	68.35	61.62	114.07	92.68	132.47	143.69	162.51	153.45

(Source: DoE, via CREST, 2003, University of Stellenbosch)

As can be seen in Table 2.2, since 1991 and up to 2001, there has been a gradual but consistent improvement in the research output of technikons (from 23.52 units in 1991 to 153.45 units in 2001), but the figures are still far below those of universities (Dowling & Mouton, 2001:60). As Mthembu & Naidoo (2002:180) point out:

“The potential to increase outputs from these sectors (technikons and HBUs) is enormous, provided there is strategic financial redress. The National Research Foundation, through

its Institutional Research Development Programme and earmarked funding, has stimulated increased outputs in these sectors.”

The new SAPSE research evaluation system is due to be implemented in 2005. The Department of Education has indicated that it is contemplating the use of the journals that appear in the three indices of the Institute of Scientific Information, the Science Citation Index, the Social Science Citation Index and the Arts and Humanities citation Index. The ISI master journal list will cover over 8 500 journal titles in all subject areas and languages. Quality South African journals that do not appear in the ISI master list might be included in a secondary list aimed at supporting developmental research institutions (Qhobela, 2001). This secondary list, if approved, will be a great asset to evolving research technicians who are trying to increase their research outputs and to postgraduate students who are encouraged to publish their results and who might not otherwise get their articles published in the ISI master journal list.

2.3.3 Technikon Natal

The Technikon Natal postgraduate research administration models operating in 2001 provide the reader with an insight into the *modus operandi* of the institution at that time. Since the merger on the 1st April 2002, there have been changes and many more are anticipated, but it is not within the scope of this study to provide these details.

At Technikon Natal, the postgraduate population was concentrated mainly in the Faculty of Health, with 128 postgraduate students registered in the Departments of Homoeopathy and Chiropractic in 2001. Up to the July 2001 registration, Technikon Natal had a total postgraduate student population of 283. The *modus operandi* of the departments of Homoeopathy and Chiropractic is that there is no exit level for students on completion of their B.Tech degree, as in most other departments. The students are obliged to continue with their M.Tech degree in order to register as Chiropractors or Homoeopaths with the Chiropractors, Homoeopaths and Allied Health Service Professions Interim Council of South Africa. In other words, the students must complete the full five-year degree course. On completion of this programme, students are entitled to use the title “Dr”.

As far as research for non-qualification purposes is concerned, the institution has a number of key research activities, which are funded mainly by the National Research

Foundation and the Technikon. In addition, THRIP, the Water Research Commission, ESKOM and industrial partners contribute to the research funds.

Key research areas in 2001 were:

Entrepreneurial Research Unit

Dynamical Systems Research

Advanced Materials, Design and Manufacture

Waste Management.

Each of these niche areas receives financial support from the National Research Foundation. In all of these research activity areas, there has been capacity building of mainly B.Tech, M.Tech, and some D.Tech students.

Several other research activities are undertaken as *ad hoc* projects, until capacity and sufficient expertise are developed to the level when new research niche areas could be sustained (Technikon Natal *Institutional Profile 2002–2006* prepared for the Department of Education, July 2001). The research centres and units, together with the Departments of Homoeopathy and Chiropractic, were the major sources of Master's and doctoral students at Technikon Natal, and the Durban Institute of Technology at present.

Research administration and research finances (internal and external funding) for non-qualification purposes, i.e., the niche areas and *ad hoc* projects, were centralised in the Centre for Research Development and remained the duties of the Research Administrator and Financial Administrator, who reported directly to the Vice-Principal: Academic.

The importance of the role of a Research Co-ordinator in a faculty depended on whether the faculty had a strong or weak research culture. Historically, the Faculty of Engineering & Science at TN has been strong, resulting in the Research Co-ordinator having taken a more *laissez-faire* approach. The Faculties of Arts and Commerce required a more regular hands-on approach by their Research Co-ordinators because research was not well entrenched in those faculties. Research Co-ordinators held workshops to promote research in the faculty.

In the interest of promoting research, the Institution hosts an annual Institutional Research Day, where novice and experienced researchers and students are given the opportunity to showcase their work during oral sessions, and poster and essay-writing competitions.

Technikon Natal had a research budget of approximately R2.7 million in 2001. This figure did not include salaries for research staff or contract income. It was mainly for higher qualification student budgets and person power in niche areas. Twenty per cent of the budget is presently set aside for miscellaneous items such as Research Day, Rewards for Research Performance and an SPSS licence, etc. In addition, the National Research Foundation supports postgraduate students in the research centres and units through its various programmes, particularly the Technikon Research Developmental Programme.

Postgraduate supervision workshops were held for Technikon Natal staff involved in research in 1999 and again in 2000. Academic staff attending the first workshop numbered approximately 20, and those at the second workshop numbered 26. The overall evaluation of these workshops by participants was good and did much to improve the quality of supervision at the institution (feedback from Kapp workshop, 2000). They were instrumental in generating an interest among staff and management about related issues like action research, ethics and research and intellectual property rights. There were also workshops on "Training in Research Methodology" and "Research Proposal Writing". Prior to these workshops academic staff involved in supervision gained experience mainly through participation in the process via joint supervision with more experienced staff or from their experiences with their own supervisors. In addition, the then Technikon Natal postgraduate student manual, the G182, set out the duties of the supervisor, and is currently in use at the Durban Institute of Technology.

The decentralisation of postgraduate administrative functions to the four faculties at Technikon Natal relied on communication between faculty and postgraduate student that was efficient, as a large proportion of students were part-time and mostly off campus. The decentralisation process followed a critical path.

The majority of postgraduate research administrative functions at Technikon Natal were carried out by the faculty officers in each of the four faculties (Arts, Commerce, Engineering & Science and Health). The faculties retained certain autonomy as far as the

offering of research methodology modules and structuring of their research proposal forms (G186) were concerned, but generally they operated on the basis set out below:

G182

Student is referred to the "General Information and Research Guidelines" (G182) prior to initiation of research activities.



Topic for Research

A student submits a topic of the research planned/proposed to the Head of Department for approval.



Department Approval

Head of Department informs Faculty Officer/Departmental Secretary of the research, who records the topic.



Appointment of Supervisor

Student submits a written request to the Head of Department for the appointment of a supervisor (and co- or joint-supervisor if necessary).



Department Appointment Procedures

Department informs Faculty Officer/Departmental Secretary of proposed supervisors (and co-supervisors), whose details are then submitted by the Faculty Officer to the Faculty Research Committee for approval in the case of full dissertations. The Faculty Officer/Departmental Secretary notifies the student of the outcome.



Approval of Project

Student submits G186 to supervisor for approval



Supervisor's Duties

Supervisor approves and signs the G186. HOD approves and signs the G186. Supervisor submits G186 to Faculty Officer/Departmental Secretary for inclusion on agenda of the Faculty Research Committee/Departmental research committee.



Faculty Officer

Faculty Officer/Departmental Secretary invites the supervisor/co-supervisor to the Faculty Research Committee meeting/Departmental Research Committee meeting.



G186

Committee considers the G186



Modifications and Changes

Supervisor/departmental representative makes notes of any modification.

Department representative/supervisor meets with student to explain changes.

Student effects changes, and re-submits to a supervisor for re-checking.



Appointment of Examiner

Student notifies the Faculty Officer of intent to submit three (3) months prior to date.

The Central Research Committee approves examiners for a three-year cycle.



Submission of Dissertation.

Student submits the required number of copies of the dissertation for marking.

Examiners' report goes to Central Research Committee for ratification.

The necessary copies are distributed to the library.

(Information obtained from the Faculty Officers in Arts, Commerce, Engineering & Science and Health, 2001).

The Central Research Committee currently still considers all research proposals for doctoral theses and research proposals at Master's level if the budget exceeds R10 000.

Some aspects of the foregoing procedures change from time to time, and in these cases it is important for the relevant faculty to communicate with its students, or run the risk of chaos and time being irretrievably lost. In the critical path set out above, each step has to be carefully monitored to avoid a breakdown in communication. Senate approves all changes before they are published in the institution's General Handbook.

The Institution's Intranet, where messages are posted, is not accessible to all students and staff, with the result that messages are carried by word of mouth. Students receive a Rule

Book for Students on registration. The G182 is an information brochure for postgraduate students. In the absence of a graduate centre or graduate school, the task of relaying information lies with the Faculty Office or the Department.

This concludes the procedures in the Faculties for Higher Qualifications and the research duties of the Faculty Officers.

The next section of the literature review contains an overview of the role of the National Research Foundation and its mission to:

“...provide leadership in the promotion and support of research and research capacity development in the natural, social and human sciences, engineering and technology to meet national and global challenges ...” (NRF Guide, 2001:1).

The focus is specifically on the NRF's role in the development and promotion of research at South African technikons.

2.3.4 National Research Foundation (ex-FRD and ex-CSD from 1996)

The distinctive character of research at technikons was recognized but their late beginning led to the conviction that they required support to develop research. The Manager of the NRF Technikon Research Development Programme writes,

“Both the former FRD and CSD had identified the need for a dedicated support programme to develop research at technikons from as far back as 1990 when the FRD started its first Technikon Programme. The CSD's equivalent programme was launched in 1995, (having supported technikons under a different programme since the early nineties) at which stage the FRD was launching the second phase of its Technikon Programme. The reason that the FRD concentrated mainly on developing the natural sciences and engineering was that in most cases these departments were already established at technikons and traditionally had closer links to the R&D community” (Lombard, 2002:2).

Lombard explains that an additional reason is that the ex-FRD initiated a research support programme for technikon niche areas earlier than the ex-CSD. To date therefore, the NRF and its predecessors (FRD and CSD) have operated two distinct programmes to promote

and develop research capacity at technikons (TRDP Framework, 2002). The CSD initially provided funding for individual research and scholarships in the social sciences in order to build a base of research activity at technikons. This funding assisted many individuals — students and staff alike — to improve their qualifications. The FRD programme initially concentrated its resources on SET (science, engineering and technology), and five years later the CSD launched a similar programme for the social sciences and humanities. The late start in supporting niche areas has put the SS&H at a disadvantage but there has been an increase in activity as evidenced by the newly-supported NRF niche areas at DIT. During the period (1995-2000) the FRD's programme for the natural sciences, engineering and technology was building on the base established previously. Lombard maintains that although research in the natural sciences and engineering is better developed, the technikons' full research potential has not been realised, and in many cases is still in its infancy. She expands further

“It is recognized that there is substantial untapped potential residing within the technikons. Due to the still developing research culture at these institutions, the NRF can play a very important role in the development of research and researchers” (Lombard, 2002:3).

In addition, because of the nature of the courses they offer and their links to industry, technikons are strategically placed and well geared specifically to contribute to innovation, thus underpinning the concept of the National System of Innovation. The National Plan for Higher Education and the NRF recognise the role that technikons can play in meeting the country's needs. The additional five-year window of opportunity recently given to technikons through the launching of the NRF's new Technikon Research Development Programme in 2000 will do much to assist in this vision, if they take up the challenge. According to the TRDP Framework, the NRF Technikon Research Development Programme must fulfil the NRF mandate in terms of the promotion and support of research development, in particular to the technikon sector (Lombard 2002:1-8). This implies that technikons will be encouraged to produce postgraduate students.

According to the TRDP Framework, the NRF identified a number of focus areas, which took:

“...into account the macro-environment, relevant national developments and the spectrum of disciplines in the natural and social sciences, humanities,

engineering and technology”, thus the focus areas represent many opportunities for research at technikons” (Lombard, 2002:6).

It is unfortunate, however, that for the most part the health sciences are not being fully supported by these programmes.

The NRF strategy for research development aims to support a research system comprising human resource development, the research environment and to build up a research knowledge base, recognizing that the nature of technikon research lends itself more to applied research. At the same time, the NRF feels that basic research should not be excluded. The nature of the NRF support is such that it enters into a partnership with technikons, requiring both parties to invest resources into research development. The objectives of the programme are therefore to strengthen the participation of technikons within the National System of Innovation, ensure sustainable development of R & D and to accelerate the movement of researchers into the mainstream of national and other research support.

Concluding comments: It has been shown that the NRF has contributed to capacity building of research staff and students at technikons, which has led to an increase in the number of adequately qualified academic staff and postgraduate students, and the establishment of research niche areas.

These discussions of changes in South African higher education and the technikon sector in particular are not unique as they largely reflect international trends. In the following section the views of Gibbons (shifts in modes of knowledge production) and Burton Clarke (the rise of the entrepreneurial university), are addressed to show the implications of these shifts for postgraduate studies.

2.4 International trends in knowledge production and implications for the management of postgraduate studies

In recent years a good deal has been written about changing knowledge production contexts (Gibbons et al, 1994; Scott, 1997; Subotzky, 1999) and most authors agree that scientific knowledge production has altered over the past decades. Michael Gibbons and his co-authors have identified this change by distinguishing between the traditional Mode 1 and a new Mode 2 type of science. They describe Mode 1 as knowledge for the sake of

knowledge and Mode 2 as entrepreneurial and economically driven knowledge. They believe that knowledge production and dissemination are no longer self-contained activities carried out in isolation – they involve more interaction with diverse knowledge producers (Ravjee, 2000:1-39).

Ravjee explains that Gibbons et al

“...base their Mode 1 – Mode 2 distinction on an examination of five changes they claim are occurring in the cognitive and social practices in the natural sciences, social sciences and the humanities in western industrialised countries” (2000:2).

The five trends that mark the shift from Mode 1 science to Mode 2 knowledge productions are:

Problem solving

Mode 1 problem solving is conducted within a strict disciplinary context, i.e. the accepted norms that govern basic research and academic science such as that undertaken at universities. On the other hand, Mode 2 is carried out for specific contexts of application, and produced first and foremost for its use value for those who require it, when and where they need it most. It is thus negotiated in the sense that it serves the interests of those who have a specific need.

Disciplinarity to trans-disciplinarity

Mode 1 is discipline specific and traditional, with no programme or qualification mixes, as is becoming more common today in both universities and technikons. Mode 2 is transdisciplinary, i.e., linking and re-linking clusterings of knowledge, brought together on a temporary basis in specific contexts for specific needs. Mode 2 thus leads to diversity because it is flexible.

Heterogeneity and organisational diversity

Knowledge production in Mode 2 can be viewed as heterogeneous because of the diverse skills of the research team and its trans-disciplinary and transient nature. It is common for Mode 2 research team members to disperse once the research problem has been solved. Conversely, Mode 1 is homogeneous because it is discipline-specific, with a basic science ethos.

Social accountability and reflexivity

Increased participation of different research groups leads to social accountability. The research group becomes accountable to different role players in the research process, such as the instigators of the research, funding bodies, organisations, interested groups, etc., and in the process becomes more reflexive and sensitive to the social implications of their research. This is because the social accountability aspect is reflected in the setting of the research agenda, the definition of the problem, and the interpretation of results in consultation with the different role players who do not traditionally cross the boundaries, i.e., between the natural sciences and humanities and the public at large.

Additional criteria for assessing the quality of research

Disciplinary research in Mode 1 is peer reviewed, while in Mode 2 the additional social players involved in the context of application bring additional socio-economic and political criteria to the review process.

Gibbons cites new types of competition, new types of institutions, the implications of 'new' teams and team members, and the implications for the setting of the research agenda as important issues in the changing higher education landscape. Gibbons is convinced that universities have lost their monopoly in providing training and they need to become more competitive in order to attract students (Ravjee, 2000). A move to Mode 2 knowledge production has implications for university and technikon education, but the Gibbons thesis is vague when discussing the implications of the shift to Mode 2 for university functions, especially teaching. According to Ravjee, opinions are divided about the progression to and relevance of a Mode 2 type research (Ravjee, 2000, 23:30). In addition, Ravjee notes that the debate about how academia will assess the academic quality of Mode 2 type research has already been taken up. Clearly, more critical debate is required about the perceived impact of the Gibbons thesis in the international and South African contexts.

Burton Clark also believes that new types of competition have forced universities to become more entrepreneurial. From the mid-1980s to the mid-1990s he conducted case studies at five selected European universities that had chosen to transform to become more adaptive institutions. Their idea was to become more enterprising and entrepreneurial. As Clark explains:

“‘Entrepreneurial’ is taken as a characteristic of social systems; that is, of entire universities and their internal departments, research centres, faculties, and

schools. The concept carries the overtones of 'enterprise' - a wilful effort in institution-building that requires much special activity and energy" (1998:5).

Clark monitored the transformation of each university over a period of ten to fifteen years. Although the universities had different settings, histories and profiles, their transformations were framed in a common conceptual structure — the pathways to transformation consisted of five elements identified through observation.

The strengthened steering core

Clark sees traditional European Universities as having had a long history of a weak capacity to steer themselves. As their complexity increased and the pace of change accelerated, the weakness became a major stumbling block increasing the need for a stronger managerial capacity. Clark argues that ambitious universities should not depend on their old habits of steering, but become quicker, more flexible, more organised and more focussed in reactions to expanding and changing demands. The core can take different shapes but it should include central managerial groups and academic departments.

The expanded developmental periphery

Clark explains this concept by encouraging enterprising universities to grow by reaching across old university boundaries to link up with outside organisations and groups in areas such as knowledge transfer, industrial contact, intellectual property development, continuing education, fundraising and the like. He encourages interdisciplinary project-oriented research centres to grow up alongside departments as a second way to group academic work.

The diversified funding base

According to Clark, to change orientation a university usually requires a widening funding base for greater financial resources, particularly discretionary funds, especially in view of the fact that support from government is on the wane. He encourages universities to turn this trend into an advantage by competing more aggressively for grants and contracts, including third-stream sources from industrial firms, local governments, royalty income from intellectual property rights, and income earned from campus services, etc.

The stimulated academic heartland

Central to the concept of transformation is the academic heartland. Clark postulates that once an enterprising university evolves a stronger steering core, an expanded developmental periphery and a diversified funding base, the academic heartland consisting of the sites of research, teaching, and faculties need to fully embrace the transformation process. Transformation will only be successful if departments and faculties become entrepreneurial units themselves, embracing new programmes and relationships. He stresses that universities:

“...need to accept that individuals as well as collegial groups will have stronger authority in a managerial line that stretches from central officials to heads of departments and research centres” (1998:7).

The integrated entrepreneurial culture

Clark believes that if universities want to transform they must develop a work culture that embraces change. Change may start out as a simple institutional idea, which later becomes a more elaborate set of beliefs, which, if diffused into the heartland, becomes a university wide culture. He believes that:

“...strong cultures are rooted in strong practices. As ideas and practices interact, the cultural or symbolic side of the university becomes particularly important in cultivating institutional identity and distinctive reputation” (1998:7).

Clark maintains that universities have entered an age of turmoil simply because “demands on universities outrun their capacity to respond”. According to Clark, all five universities — Warwick, Twente, Strathclyde, Chalmers and Joensuu — “all exhibited in 1995 a greater systematic capacity to steer themselves than they had possessed 15 years earlier” (Clark 1998:7). John Gultig (in Hunter 2002) concurs that:

“Established (mostly historically White) higher education institutions have moved rapidly from a cultural conservatism to symbolise most significantly the new ‘entrepreneurial’ university” (2002:8).

Concluding Comments: The changes in higher education discussed above are reflected in programme changes and programme mixes to accommodate the new technologies and the entrepreneurial trend shaping universities and technikons. Today’s postgraduate students have a range of new interdisciplinary and trans-disciplinary programmes to choose from, different ways of instruction and different knowledge production sites, while

in South Africa students face an added challenge – the integration of students from diverse educational backgrounds in a single classroom. Hunter (2002) writes that the “South African higher education system has a dual challenge: on the one hand, it has to address the international challenges of globalisation and greater co-modification of knowledge, and on the other, several aspects of the apartheid inheritance still have to be overcome” (2002:7). These changes will bring added dimensions to the experiences of postgraduate students, which will no doubt add to and compound the challenges they traditionally have to face. Some of these problems are highlighted in the following section.

2.5 International trends in postgraduate studies

Two issues will be addressed in this section: first, the focus on research that has identified different kinds of concerns encountered in postgraduate studies; second, a brief overview of interventions that various universities have taken to encourage and facilitate postgraduate studies.

2.5.1 International research on postgraduate studies

A number of studies have been done in recent years regarding the concerns of postgraduate students. Robert Burgess writes that the most frequently identified ‘greatest concerns’ of postgraduate students are funding, quality of supervision, quality of facilities, length of time allowed for completion, fee increases, quality of education, programmes, cost of living, cost of equipment and books, need for an improved health plan, and intellectual property rights (Burgess, 1997:66). These concerns and others appear universal and are revealed by other studies.

Guthrie and Trembath (1998:121-128) commented on a pilot survey undertaken by the Graduate Careers Council of Australia (GCCA) on the postgraduate research experience. They found that postgraduate students had three main concerns. They were the standard of supervision, the thesis examination process, and infrastructure issues (provision of services and facilities). They felt that proper use of the data obtained would assist the universities’ understanding of the educational experiences of higher degree postgraduates, which would benefit all parties and education in general.

Beasley also commented on the difficulties postgraduate students face and highlighted a need for better induction and support programmes for all postgraduate students, “especially for international students for whom English is a second language” (Beasley,

1999:1). The paper outlines work in progress to assist students with research and writing skills.

Conferences, articles and books consulted highlight the importance of quality in postgraduate supervision (Phillips, 2000, Cryer, 1996, Styles & Radloff, In: Mullins, 2001, Hay, 1990, Kiley, 2000, Burgess, 1997). The concerns about supervision seem to originate not only from the students themselves, but in many cases from the supervisors as well. Love and Street recommend an integrated approach to postgraduate research education, which involves negotiation in the supervisory relationship (Love and Street, 1998). They concur with previous studies "that negotiation between supervisors and students lies at the heart of collaborative problem-solving" (1998:154). Contracts as the basis for supervision have been recommended before (Zuber-Skerrit & Ryan, 1994).

In a study done in 1995, Harvey (as cited in Burgess, 1997: 10) found that "quality is an important feature of every facet of higher education" and that "quality includes, among other things, effective supervision". He quotes expert opinion claiming that effective supervision is the key to the overall quality of postgraduate education.

The literature indicates that students' requirements can be ascertained through institutional self-assessment. Information should be collected so that relevant staff can inform their administrative, teaching and research supervision practices and effect whatever changes are necessary (Quigley & Knowles, 1995). Quigley and Knowles maintain that unless students' satisfaction is investigated, tertiary institutions cannot plan for quality and thus ensure their specific requirements.

In *Beyond the First Degree* edited by Robert G Burgess, Jules la Pidus' article *Issues and Themes in Postgraduate Education in the United States* (Burgess, 1997) comments on the way that universities interact with students. One of his recommendations is that institutions provide students with better information on employment options and include in programmes practical courses designed to equip the students for the world beyond the dissertation.

He recommends that the Master's degree should be strengthened to make it a viable option for students who elect not to pursue a PhD.

Styles and Radloff believe that departments and universities:

“...need to explicitly value and uphold synergistic practices and provide time and resources for staff and students to undertake such practices, including collaboration, joint supervision, mentoring and time for reflection. More resources such as financial support, desk space, computers and childcare would encourage more students to study full-time and an increased likelihood of students completing postgraduate studies successfully and in minimum time” (Styles & Radloff et al 2001: 105).

Thus it can be seen that the quality of the supervisor/student relationship is an important feature towards successfully completing a research degree. Postgraduate experience questionnaires, journals and conference proceedings emphasize the importance of good supervision. It is for this reason that particular focus has been on supervision as one of the key elements in quality assurance. It is clear that good supervision contributes to an enhanced quality research experience. If steps are taken to ensure that the student/supervisor relationship is successful then the gains for universities and the individual will be in terms of the engagement of students with research work beyond their theses. Styles and Radloff agree that

“...provision of resources, flexible regulations and financial assistance for students will not help if the research process itself is unhappy, stressful and unrewarding due to the nature of the supervisory relationship” (Styles and Radloff, 2001:97).

This statement once again emphasises the importance of the role of the supervisor.

Concluding comments: These facts tend to lead to the conclusion that postgraduate students worldwide face similar concerns, and that universities and technikons need to enhance government efforts and take ownership of the problems to provide the support, knowledge and skills required by postgraduates to complete their studies.

The next section discusses interventions that have been put in place to improve the research experience in some tertiary institutions.

2.5.2 Interventions to improve the quality of the postgraduate experience worldwide

Universities in Australia have been active in endeavouring to improve the postgraduate research experience and regard the quality issue, especially supervision, as an important aspect in attracting postgraduate students (Sekhon & Shannon, 1998:139-147). The standard of supervision, the thesis examination process, and infrastructure issues (provision of services and facilities) were identified as topics that arose during the focus group stage of a survey on the Postgraduate Research Experience (Guthrie & Trembath, 1998: 121-129). The aim of the survey was to describe the development of a new instrument to assist towards better understanding of the experience of higher degree research students. They write:

“Proper use of data obtained by means of the postgraduate research experience questionnaire will assist universities’ understanding of the educational experiences of higher degree research graduates and will help to identify areas of good practice. Postgraduate feedback is one way of enhancing research offering.”

The Australian government put pressure on Australian universities to increase postgraduate research enrolments, and as a result access opportunities were extended to include entry into higher degrees for students from diverse non-traditional backgrounds. Consequently, a greater number of departments suddenly had more research students. The increased diversity of postgraduate students, however, brought with it a number of challenges to academic staff at the Victoria University of Technology. The preparedness of these students for higher degree studies and the fact that many staff members were completing their own higher degree studies were only some of the challenges (Webb & Sillitoe, 1998:244). In South Africa today, universities and technikons are facing similar problems.

In 2001 the University of Melbourne conducted a preliminary investigation into the postgraduate experience of first-year postgraduate students, and among the recommendations was that the university convene a Postgraduate Orientation Committee to oversee the development of a postgraduate information kit to be distributed at enrolment (<http://www.umpa.unimelb.edu.au/>). Their research indicated a clear link between degree type and feelings of satisfaction or dissatisfaction, i.e. “the level of administrative support, status, and access to resources is dependent on the course undertaken”. Initial indications are that this trend has been identified in this study, and is discussed in Chapter 4.

The University of Western Australia has implemented a Research Management plan — one of its main aims being to offer high quality research opportunities and scholarships and develop research concentrations in selected areas. The plan lists a number of objectives and corresponding strategies to achieve those objectives. Some of these objectives are to:

- Offer high quality research, recruit, retain and develop high quality academic staff.
- Attract the highest quality and number of higher degree research students.
- Provide high quality undergraduate courses.
- Provide high quality research infrastructure.
- Develop research concentrations.
- Foster young academic staff.
- Disseminate widely research findings.
- Foster international, inter-university, inter-faculty and inter-departmental communication and collaboration in research. (Research Management Plan – Western Australia <http://www.acs.uwa.edu.au/reg/stratplan.html>). In addition, this university has introduced a programme called SPORS (Student Perceptions of Research Supervision), a system that enables staff and students to collect and discuss their views of supervision styles in a voluntary, non-threatening and confidential manner.

The University of Adelaide has a code of practice for maintaining and monitoring academic quality and standards in higher degrees. Its web page includes comprehensive information on the responsibilities of the university and its faculties, departments, the Postgraduate Co-ordinator, supervisors and students. Their structured programme for PhD students has activities to assist with their research. The programme requires that departments ensure that all PhD students have the necessary knowledge and skills to adequately complete their research within a reasonable time (http://www.adelaid.edu.au/graduate_Studies/courses/index.html).

In the United Kingdom, John Moores University conducted its first postgraduate research survey in 1997, and since then has been implementing it on a biennial basis in conjunction with the Graduate School and Postgraduate Society. The aim of the survey was to obtain research students' opinions of their experiences at JMU, including the services and

facilities provided. Recommendations from this survey resulted in the formalisation of a programme of training for researchers and their supervisors, and the extension of the Research Methods Module (<http://cwis.livjm.ac.uk/quality/pgres/pgsurvey.htm>).

Concluding comments: Universities in Australia seem to be most proactive regarding postgraduate quality issues. South Africa and Thailand are following this trend, as recent studies indicate (Mullins and Kiley, 1998). As Mullins & Kiley point out:

“Universities are facing dramatic changes as they approach the 21st century: [sic] restricted resources and competitive marketing; demands for increased accountability; the impact of information and communications technology; the changing demands of professional education; internationalisation” (1998:1).

This concludes the discussion of international trends in postgraduate studies. The final section of the chapter discusses various South African studies and what has been learnt from them about the challenges facing tertiary institutions regarding postgraduate studies.

2.6 Postgraduate studies in South Africa

In this section some recent South African (empirical) studies that have investigated the trends and dynamics of postgraduate studies in this country, highlighting problems faced by South African students, are examined.

2.6.1 H.R. Hay (1990) Probleme en behoeftes van nagraadse navorsingstudente

In a study on higher education in institutions conducted at the University of the Orange Free State in 1990, Hay found that

“In each of the research or study phases research students experienced problems and that ambits of the institutions involved with the training process are potential sources of these problems — problems exist in the planning, execution and documenting of research; that studying is obstructed by the postgraduate teaching system and that postgraduate research students have particular needs with regard to study guidance” (Sabinet Online, 2001).

Hay argues that the specific study approach of a student, and the degree of cognitive development a postgraduate research student has had, are of decisive importance in the successful completion of postgraduate research study. One of the biggest problems facing a Master’s student is a lack of time. Problems are also experienced with guidance. Hay feels that emphasis should be placed on the academic development of the student in

terms of concept-forming, journalistic abilities and on the research itself, rather than on factual knowledge. She recommends that the university address these problems.

2.6.2 Helm, C.A.G. and H.R. Hay (1993) Nagraadse Navorsingstudente

Helm and Hay undertook an empirical study at the University of the Orange Free State three years later and identified three categories in key areas of the research: the student, the supervisor and/or the teaching system as potential sources of problems (Helm & Hay, 1993:47-56). The data was obtained from a postal survey to a target population of 960 Master's and 430 doctoral students. The return rate was 42.5% for current Master's students, 16.1% from recently qualified Master's students; 32.2% from current doctoral students and 6,5% from recently qualified doctoral students, i.e., a sample of 465 students.

The three categories are identified thus:

The Student

In the first problem category, i.e., the student, Helm & Hay identified problems such as lack of experience and knowledge about Research Methodology leading to poor planning and documenting of research. Difficulty in selecting topics, formulating problem statements, drawing up a reasonable work plan, collecting and analysing data were potential problems students face.

The Supervisor

The supervisor plays an important role in the development of the students by influencing students' attitudes and the way they approach their work. A supervisor's personal, professional and organisational skills are identified as important factors of the research experience, as well as frequent contact.

The Teaching System

The teaching system itself can cause problems by accepting academically weak students into postgraduate programmes, because they usually take longer to complete. In view of the fact that supervisors enjoy academic freedom, many do not make attempts to remain in contact with their students (Helm & Hay, 1993).

The students also reported personal problems, such as lack of time and funds as inhibiting factors to the completion of their research (52,5%).

2.6.3 Hay, Helm & Venter (1993) Leërorientasies van navorsingstudente

In another paper written by Hay et al, they argue that success depends on how students are taught. For them, the learning orientation of postgraduate students (Leerorientasies van navorsingstudente) is not something inside a student, but between a student and a lecturer. They describe an in-depth study approach (the understanding of meanings and concepts) and a superficial approach, (that is, memorising without true understanding necessary). The two approaches (learning orientation) relate to an understanding of how students are taught. The first, the in-depth study approach (IDA), advances cognitive development, whereas the second, the superficial approach, requires the student to memorise. According to Hay et al, in view of the expectations required of postgraduate students to do original research, data analysis, valid deductions and conclusions, they conclude that both these approaches are required for postgraduate students to be successful in their studies. However, they feel that Social Science & Humanity (SS & H) postgraduate students would probably flourish better with the IDA, whereas natural science students could follow the memorising, so-called superficial approach (Hay et al, 1993:140-141).

Hay's research has consistently revealed that the problems postgraduate students face with their studies is rooted in the students themselves, the supervisor relationship and the teaching system.

2.6.4 Kapp, C. (2000) The application of exit questionnaires to improve the practice of postgraduate supervision

Kapp (2000) maintains that technikons face even greater challenges than universities in the field of postgraduate supervision, because the technikons are *expected* to do research in spite of the fact that the nature of technikon programmes means that academic staff are recruited mainly from commerce and industry. In a paper presented by Kapp on quality issues pertaining to the improvement of postgraduate supervision, he wrote that the majority of academic staff at technikons are not in possession of postgraduate qualifications. Furthermore, they often lack the necessary exposure to skills development and are expected to give quality supervision to their postgraduate students. The situation is improving as technikons strengthen their research base, but during the preliminary focus group exercise undertaken for my study, participants agreed that generally there are insufficient qualified staff members to cope with postgraduate students, and there is a lack of expertise in some departments.

In order to improve the practice of postgraduate supervision, Kapp advocates the use of an exit questionnaire for postgraduate students. The Centre for Higher Education, University of Stellenbosch conducted a survey on M.Phil and PhD students in 1997. Questions put to students were about the most important problems they experienced during their research, strengths and weaknesses they perceived in their supervisors, the most important skills they learned during their research, and what they would do differently if they had to do research again. Kapp maintains that the use of the exit questionnaire has not been given enough attention and that it provides valuable diagnostic information, which could be used effectively to improve the quality of the postgraduate experience. Judging by the responses provided by the students, it does seem to be a valuable tool, which could greatly benefit the research experience of postgraduate students at technikons in particular. Some of the following information gained could be particularly useful to technikons:

- Information about the planning, time frames and emotional experiences of students.
- Information on the problem areas experienced by students.
- Positive feedback on behaviours of the supervisor.
- Behaviours of the supervisor, which could be improved.
- Information about skills learned during the research.
- Advice on what students would do differently if they had to do the research again (Kapp, 2000).

2.6.5 Hunter, M. (2001) Postgraduate studies at the University of Stellenbosch: an exploration of students' perceptions

At the University of Stellenbosch, a case study has been conducted to ascertain the state of postgraduate studies at the university — such is the level of importance placed on the quality and relevance of postgraduate studies. The main aims of the study were to identify historical and current tendencies and patterns in postgraduate studies at the University of Stellenbosch with regard to success rates, completion rates, and to determine the enabling and constraining factors relating to postgraduate studies at the university, among others (Hunter, 2001:2).

Hunter found that almost half of the postgraduate students at the University of Stellenbosch did not pursue a postgraduate programme directly after completion of their

undergraduate studies — a trend that seems to be in line with previous research done by the university. Hunter concludes that this trend might be attributed to the fact that vocational skills are becoming more important, so students are inclined to first pursue an occupation before registering for a higher qualification. She also found that although there has been an increase in the number of female graduates, the majority are still male. Female dual roles are still obviously a problem at the university.

Hunter also found that the distribution of students with regard to race has changed the University of Stellenbosch from an almost exclusively white population to just more than three-quarters white. She attributes this to the ongoing transformation processes currently being implemented at the university.

The issue of language policy at the university was another factor Hunter explored in her study. It seems that the percentage of Afrikaans-speaking postgraduate students has declined in recent years. This, however, was not seen as an obstacle for more than three-quarters of the students.

Regarding financial issues, Hunter found that postgraduate students were not impressed with the availability of postgraduate bursaries – most students financed themselves (2002:45-59).

Postgraduate students at the University of Stellenbosch were satisfied with the relevance of their postgraduate studies for their future occupations. According to Hunter, the reason for this could be that the university has addressed the need for relevant postgraduate programmes to equip students with the necessary skills to use in the workplace.

Interestingly enough, in her study, Hunter found that the involvement of the home department has an impact on the success of postgraduate studies. My study reveals that *both* the home faculty and the department have an influence on students' perceptions of their postgraduate research experience — largely negative perceptions, particularly in the Faculty of Health.

The most interesting aspect of Hunter's study involved the supervisor/student relationship. She found that postgraduate students at Stellenbosch did not particularly require guidance and support with regard to the literature study and the fieldwork/data collection. More

guidance was required during the development of the research proposal. Most students reported being happy with the level of support and guidance given by their supervisors. They also reported positively on the quality of the supervision and the time it took to get feedback from their supervisors on their thesis proposals.

There has been a large increase in the numbers of postgraduate students over the past decade at the university with no evidence that the efficiency of the system has declined during this time. Hunter states that, in fact, the completion rates have stayed the same over the past few years. However, it is not clear whether the university has the infrastructure to address the increasing demands larger numbers of students have placed on it. In line with the increase in postgraduate student numbers, Hunter recommends the need for more market-oriented courses.

2.6.6 Lessing, A.C. & Schulze, S. (2002) Postgraduate supervision and academic support: students' perceptions

In a recent study, Lessing and Schulze (2002) found that postgraduate supervision in South Africa currently takes place in the context of university transformation, increasing numbers of disadvantaged students and appeals for improved completion rates (Lessing & Schulze, 2002:139-147). These concerns are no different from those of technikons. The study highlighted the supervisor's role, the student's role, and factors influencing the completion of postgraduate research. Distance students at the University of South Africa's Education Department were given a questionnaire about their perceptions of the support or guidance from supervisors, and their perceptions of supervisors' individual styles of guidance. They were also given open questions about the most rewarding and frustrating aspects of their studies.

Most recommendations from the students centred on the supervisor. In keeping with other findings, the Master of Education students wanted more contact time with their supervisors, and more support. They also wanted supervisors to help them plan their research. Doctor of Education students desired constructive criticism, and more independence. Students also required written feedback. Both Master's and doctoral students wanted support with regard to statistical analyses and interpretation and presentation of research results. The study suggested that many supervisors themselves might be inadequately trained or unwilling to be instructed in these areas. The authors concluded that interactive seminars in such circumstances were crucial. The finding in this

study indicated that there was a need for supervisors to be trained. The authors also plan to do further research on how supervisors feel about postgraduate students' expectations.

2.6.7 Van der Westhuizen, P.C. & De Wet, J.J. (2002) The training needs of supervisors of postgraduate students in the social sciences and humanities

In a paper on the training needs of supervisors of postgraduate students in the Social Sciences and Humanities, Van der Westhuizen and De Wet (2002:185-195) contend that, inter alia, the skills and knowledge of a supervisor of PhD students could be contained in four categories. They are, firstly, general perspectives on postgraduate study. These include the aims of the doctoral research and study, the characteristics of the student, the supervisory process and the supervisor. Secondly, the supervisor should have the necessary skills and knowledge to do research. The skills can be subdivided into skills relating to the different phases of research, namely the introductory, design, creative and presentation stages. Thirdly, the supervisor should know how to teach the student the different phases, and, fourthly, some general competencies that cut through all phases of the research, such as management outcomes, relationship outcomes and conceptual and professional outcomes. The authors stated that they could not find any integrated overview of the training needs of supervisors in the literature, but they provided an overview of the four categories of competencies for which supervisors should be trained. They argued that the training of supervisors is a very important factor in improving postgraduate education. They summarised the competencies necessary for effective supervision in a fishbone diagram as a means to cope with a myriad of factors affecting the quality of a product.

2.6.8 Le Grange, L. and Newmark, R. (2002) Postgraduate supervision in a socially distributed knowledge system

The final study consulted dealt with postgraduate research supervision in a socially distributed knowledge system. Le Grange and Newmark (2002:50-56) present different models of postgraduate supervision and suggest that a new model might be emerging as we move towards a more socially distributed knowledge system. In this new model, those involved in the supervisory process would include partners other than university lecturers and student-peers. Le Grange and Newmark argue that "the need for greater co-operation and the establishing of partnerships between universities and other role players in knowledge production processes is the consequence of two factors" (2002:51). They are the universities' community service role and the emergence of a distributed knowledge

production system. By way of an explanation of an emerging model, the authors discuss four models of supervision from the literature, in brief summary below:

- The workshop model — this involves students and/or their supervisors meeting in workshops to discuss the research process.
- Directed team model — involves one supervisor working with a small group of candidates.
- Methodology group model — involves several students working with more than one supervisor.
- Conference model — to enable experienced academics to break down geographical isolation and institutional parochialism to learn from each other.

A new supervision model could emerge from a combination of the above models and, in addition, include ideas from a more socially distributed knowledge system. By that they mean establishing partnerships between academics within and academics outside of the university milieu, where ideas can be exchanged. Students who were interviewed after this exercise reported that they had received supervisory help from participants in the project other than their formal supervisors. This model illustrates that university graduates with research expertise are distributed in society and work in many organisations other than universities – a way of thinking that is in keeping with some aspects of the Gibbons thesis (discussed in the previous section). Clearly, the adoption of this type of model would have implications for postgraduate studies and students.

The South African studies highlight the increased awareness of challenges and problems postgraduate students and tertiary institutions face, and the efforts by the authors to assist where possible. These concerns for the quality of the postgraduate experience are no different from current overseas trends, although techniques have been slow to take up the challenge.

Concluding Comments:

The transformation of higher education began with the publication of the White Paper in 1997 and continues in 2002 with the merging of the first higher education institution. The White Paper alerted stakeholders to expect major policy changes such as equity of their student body and staff, a review of their language policies, an increase in research and capacity building, transformation of their councils to involve all stakeholders in a system of self-governance and to adjust to a new funding formula. The Council on Higher Education

established in 1997 to implement the transformation process, the subsequent publication of the Approved Academic Programmes for Universities and Technikons: 2003 – 2006 and the HEQC's discussion document, *Criteria for the quality of postgraduate education* were the harbingers of change at a pace set by the government. Institutions not only had to contend with implementing the new policies, but transforming the student body meant that new skills had to be acquired by academic staff who until then had only been accustomed to teaching students from 'traditional' backgrounds. The problem was further compounded at technikons whose own staff were charged with improving their academic qualifications. Academic literacy became an integral part of the teaching and learning process. For the first time, the former Technikon Natal had an Equity Officer to ensure that staff transformation was implemented and faculties and departments had to recruit a student body to reflect equity of the population. The National Plan was finally published in 2001 and outlined the framework and mechanisms for implementing the policy goals of the White Paper. The proposed mergers were a source of much debate and conflict and are still ongoing, the outcome of which is uncertain at this stage. Technikon research in South Africa is a relatively new concept, as discussed in 2.3. The National Research Foundation has been of great assistance, especially to technikons with its focus on capacity building programmes. Without this assistance I believe the transformation of the postgraduate student body would have been slower than it already is at Technikon Natal.

The Gibbons thesis brought about a new awareness in South African higher of education trends in knowledge production and the management of postgraduate studies. It has made educationists more aware of diverse knowledge producers and the likelihood of increased competition. The distinction Gibbons makes between Mode 1 and 2 illustrates the difference between traditional and economically driven science and reflects to a certain extent I believe, the difference between university and technikon education. The former Technikon Natal could benefit from implementing the more economically driven mode 2 type of education described by Gibbons and the entrepreneurial mode described by Clark.

If one compares international and South African trends in postgraduate studies it seems that the problems highlighted are similar, i.e. the quality of supervision, time, finances, facilities and expertise. Furthermore, several international universities are taking cognizance of these problems and have instituted plans to improve the research experience. Recent South African studies generally concentrate on the problems associated with supervision, except for the University of Stellenbosch study, which

explores students' perceptions more generally. Clearly, more research is needed, especially in the technikon sector.

Against this background, it is surprising that so few South African studies have been done in this area.

In the next chapter the research design and methodology of my study are discussed.

3.1 Design

3.1.1 Unit of analysis

In this study the unit of analysis is the individual. Data will be collected from postgraduate students at three, or perhaps four, technikon institutions.

3.1.2 Measuring instrument

The questionnaire version of the Likert Scale format type questionnaire was generated online to the one used by the research team in the postgraduate students' perception of their higher educational experience. There were five response categories: strongly disagree, disagree, neither agree nor disagree, strongly agree, and Does not apply. The categories were selected to reflect the perceptions of their research experience. In order to reduce bias, a seven-point six-point scale was used. To reduce the acquiescence response, the items were mixed up in the questionnaire. Each category had an item that was not in that category. The categories were: supervisor, library, administrator, registrar, communication, and other. The items were selected from the research methodology research proposals, academic staff, PhD students, and other. These variables were identified from the literature review. There were 10 items in the group and pilot questionnaire.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

This study was designed to identify the factors that affect the research experience of postgraduate students registered at TN in 2001. The empirical research was carried out by means of a survey of all postgraduates through a self-administered postal questionnaire. The questionnaire was developed to provide an understanding of the nature of the research experience, in terms of the objectives of the study given below. The literature review indicated that postgraduate students all over the world face similar problems. The studies consulted, the face-to-face and focus group interviews, and pilot questionnaire contributed to the construction of the questionnaire for the final study.

In this chapter, the design of the study, data collection methods and methodology are explained. Lastly, the total population and sample data are provided.

3.1 Design

3.1.1 Unit of analysis

In this study the unit of analysis is the individual. Data were collected from individual postgraduate students at the ex. TN registered in 2001, — a cross-sectional study.

3.1.2 Measuring instrument

The questionnaire consisted of 98 Likert Scale format type questions, the format of which was generated similar to the one used by the Monash University relating to the postgraduates' perceptions of their higher education experience (Monash University). The response categories were: Strongly disagree; disagree; neither agree nor disagree; agree; strongly agree; and Does not apply. The categories were all related to the students' perceptions of their research experience. In order to reduce similar response patterns, a six-point scale was used. To reduce the acquiescence response set, categories were mixed up in the questionnaire. Each category had an average of five variables related to that category. The categories were: supervision, library, examination process, finance, registration, communication, orientation, facilities, equipment, department, faculty, research methodology, research proposals, academic staff, TN support, time, and general. These variables were identified from the literature review, face-to-face interview, TN focus group and pilot questionnaire.

3.1.3 Demographics

In order to increase reliability of the data and reduce error, organismic (control) variables such as gender, age, race, and home language were included in the questionnaire.

General information questions about the course were asked: whether they were part-time or full-time; what faculty they belonged to; why they chose to register at TN; how long after receiving their last degree they had registered for their current qualification; and what attracted them to a particular programme. Lastly, the respondents were given the opportunity to comment, in their own words, on their higher degree research experience.

3.2 Data collection methods

To ensure reliability and validity of indicators used in the questionnaire, face-to-face and focus group interviews were conducted to augment the literature review, and to provide questions for the pilot questionnaire. The final questionnaire incorporated suggestions, omissions and/or changes that were revealed during the pilot study and considered to be important to the study. To ensure reliability only postgraduate students on the 2001 technikon database were asked about their research experiences at TN. If the questionnaire measures the perceptions of the postgraduate students with regard to their research experience so as to enable recommendations to be made to the technikon, this could be regarded as a measure of its validity.

3.2.1 Sampling

The total population consisted of active postgraduate Master's and doctoral students registered in May 2001 (n=279). Reliance on available subjects sampling method was used.

3.2.2 Phase 1 — Face-to-face and Focus Group Interviews

A face-to-face interview was conducted with one postgraduate student in September 2001. The interviewee agreed to the interview as long as anonymity was assured. Anonymity was assured and the interview was taped with permission obtained from the student. Data from the interview was incorporated into the pilot questionnaire. The results of the interview will be discussed in Chapter 4.

The aim of the focus group interview was to assist in the development of the questionnaire.

Six postgraduate students participated in the focus group interview on 14th November 2001 in the then Technikon Natal's Berea House committee room.

Initially, ten students were approached because they were on campus and thus easily accessible, but four were unable to participate. Of the six students who finally participated, four were males and two were females. Only one student was black. In terms of gender and race, the participants were unbalanced. At the outset, one student from each of the four faculties was recruited to allow a broader representation of students. As it turned out, the Faculty of Engineering & Science was over-represented, with three of the students coming from there. Three of the students belonged to Research Centres, but two of them had links with other departments as well, therefore the categories were not mutually exclusive.

The participants each signed a consent form. They were informed that the results of the study would be made available to the Technikon to evaluate the effectiveness of present procedures and practices in the faculties and to implement improvements if necessary. They were given the option to withdraw and assured that they would not be identified. All six participants signed the consent form. They were encouraged to share both negative and positive experiences.

Preparation for the Focus Group included brainstorming sessions in October and November with the Faculty Officer in each Faculty to develop insights and questions.

Questions were divided into three basic categories. They were:

- General – demographics, satisfaction, etc.
- Faculty – welcome, induction, etc.
- Supervision – roles, responsibilities, etc.
- Research Methodology – course, writing skills, research topic, proposal writing, etc.

The interview took approximately one-and-a-half hours. The results of the Focus Group interview will be discussed in Chapter 4.

3.2.3 Phase 2 - Pilot Study

There were six participants in the pilot group study, four females and two males. Two students were in research centres and one student was a staff member. Two were from Arts, two were from Health and two were from the Faculty of Engineering & Science. The

Faculty of Commerce was not represented in the pilot study. Suggestions and comments from the pilot study were incorporated into the final questionnaire.

All 13 of the above students' names were subsequently removed before the postal survey was carried out.

3.2.4 Postal survey

According to Babbie et al (2001:256): "Surveys may be used for descriptive, explanatory, and exploratory purposes. They are chiefly used in studies that have individual people as the units of analysis." He continues: "Survey research is probably the best method available to the social scientist interested in collecting original data for describing a population too large to observe directly." It is also an excellent vehicle for measuring attitudes. He makes a further observation that "...questionnaires offer the possibility of making refined descriptive assertions about a student body..." It was for these reasons that it was decided to make use of the postal survey to collect the data, despite the fact that this method of collecting data has weaknesses. Babbie mentions that in many ways surveys are inflexible. A weakness of this particular survey might be that it is a cross-sectional study (time dimension) undertaken at a certain time in the history of the institution, which does not allow for changes in field conditions, as a longitudinal study would do. Since this study was first initiated, the merger has taken place, causing major changes, many of which are as yet unknown.

The format for the questionnaire was obtained from a postgraduate research experiences questionnaire pilot survey used by the University of Monash, Australia.

The questionnaire, with self-addressed return envelopes, was posted to the target population of 266 students on the 8th July 2002.

Address labels were obtained from the then Technikon Natal's database in the Computer Centre department. This was the sampling frame. The bulk of the questionnaires were posted through the normal mail, but some students were present on campus and those questionnaires were delivered through the Technikon Natal's internal mailing system. The Homoeopathy and Chiropractic departments have the highest numbers of postgraduate students, so these departments assisted in distributing the questionnaires to those students who were on campus. A memorandum from the Deputy Vice-Chancellor:

Academic was addressed to all postgraduate students, requesting them to return the questionnaires. A similar letter was also sent to all heads of academic departments, requesting them to assist in obtaining the largest number of returned questionnaires by encouraging the students to respond. These are appended as Addendums F and G respectively. As the questionnaires were returned, each date was noted and recorded.

3.2.5 Data editing, data capturing and analysis

The response category "Does not apply" was removed and those responses were categorised under "Neither agree nor disagree".

The Tables in Chapter 4, the categories "Agree" and "Strongly Agree" and "Disagree" and "Strongly Disagree" were collapsed.

The statistical software package SPSS (Statistical Package for the Social Sciences) was used to capture and analyse the quantitative data obtained from the questionnaires. Descriptive and inferential statistical procedures were followed for the analysis.

3.2.6 Ethics

Participants in the study were assured of anonymity so names of departments and/or faculties were omitted in individual responses to the qualitative questions where there was a possibility that respondents could be identified.

3.3 Methodological and practical difficulties

- The Technikon database appeared to contain some outdated information on students' current whereabouts, because a number of ex-students who were later contacted expressed surprise upon hearing about the questionnaire, as they had not received it. Some students could not be contacted by telephone, as they did not have a contact telephone number or some telephone numbers given were incorrect. Other students did not return their questionnaires, despite promising to do so, although others were very helpful and went out of their way to assist.
- At least 15 students in the Faculty of Health and 2 in the Faculty of Engineering & Science were identified as being overseas and did not receive the questionnaires.
- Two Radiography foreign students did not finish their studies and left the course.
- Two Biotechnology students and one Mechanical Engineering student dropped out and left no current telephone numbers, so could not be traced.

- Two questionnaires were returned marked 'Address unknown'.

To ensure complete confidentiality the questionnaires were posted without any way of identifying the respondents once they were returned. The result was that the author was obliged to try to contact each of the 266 students from the database to find out whether they had returned their questionnaire. This proved to be a time-consuming and difficult task, resulting in having to send SMS and e-mail messages to some students because the author was unable to contact them personally. Parents and former lodgings where students had boarded were also contacted.

Sincere attempts were made to follow-up and increase the response rate and it certainly proved to be worth the effort. A fair number of postgraduate students (particularly in the Faculty of Health) leave Durban to go overseas once they receive their qualifications.

3.3.1 Response rate

Realistically, it was assumed that 241 students had an opportunity to fill in and return the questionnaires (see Table 3.1 below), notwithstanding the problems of location and a response rate of 43%. By the closing date 48 questionnaires had been returned. The follow-up telephone calls, SMSs and e-mails up to the beginning of September resulted in numbers increasing gradually to a total of 103. The faculties of Health and Engineering & Science had the lowest response rates, but the greatest number of postgraduate students, while the faculties of Commerce and Arts had better response rates but fewer student numbers. The validity of the results in Health might be threatened as a result of the low response rate, although the responses do reveal consistencies in trends.

Table 3.1 Response rate from faculties

Faculty	Total Population	Returns	%
Arts	46 (1 went overseas*)	21	47%
Commerce	22	14	64%
Eng. & Science	48 (3 dropped out, 2 went overseas*)	17	40%
Health	150 (2 did not finish, 15 went overseas*)	51	38%
TOTAL	266 (2 returned 'address unknown'*)	103	43%

Ratio of returned questionnaires in relation to the total postgraduate student population
 $266 - 25^* = 241$.

3.4 Total population and sample profile of postgraduate students in 2001

Sample profiles from the total population of n(241) postgraduate students in terms of variables like course, full-time or part-time, faculty, gender, age, race group and home language of 2001 postgraduate students are provided below.

In addition, **comparisons** between total population and sample profile of students are given in terms of the following variables:

- Course
- Full-time or part-time
- Faculty
- Gender
- Age
- Race Group

3.4.1 Course

The 241 postgraduate students were made up of 224 Master's and 17 doctoral students. This large proportion of Master's students is not surprising because Homoeopathy and Chiropractic postgraduate students in the Faculty of Health are required to complete their studies to Master's level, at which point they exit. The total number of Master's responses numbered 96 (43%). The total number of doctoral responses numbered 7 (41%). Both Master's and doctoral students were quite well represented in the samples. However, the small doctoral population must be a cause for concern.

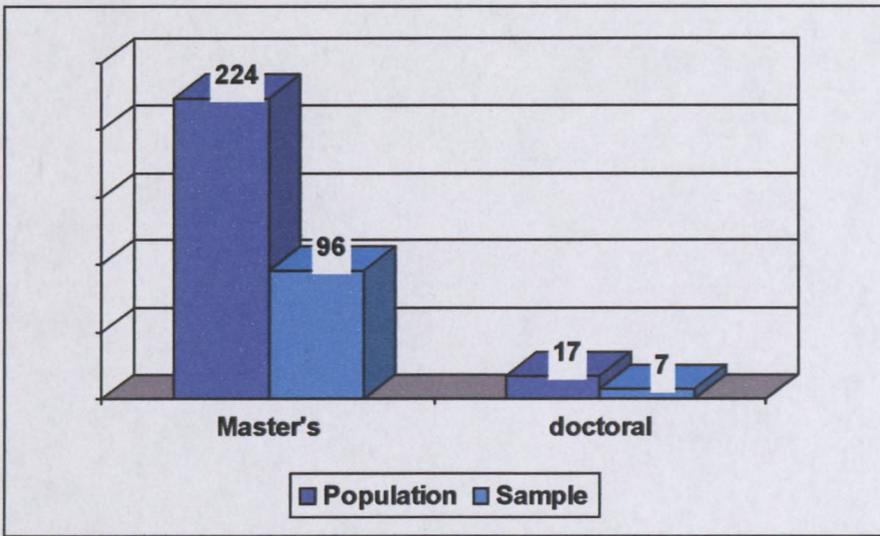


Figure 3.1 Comparison of population and sample data for Master's and doctoral students

3.4.2 Full-time or part-time registered students

Figure 3.2 reveals that most postgraduate students studied full-time. The return rate from both full-time and part-time students was similar (a difference of 6), but proportionately, considering the total population, the responses rate from part-time students was better. This might be because these students were mostly off campus and felt a greater need to be in touch with the Technikon than their full-time counterparts. It was interesting to note that all Radiography postgraduate students registered in 2001 were studying part-time because, according to the department, they all had full-time employment. In the Homoeopathy and Chiropractic departments, there were no part-time students.

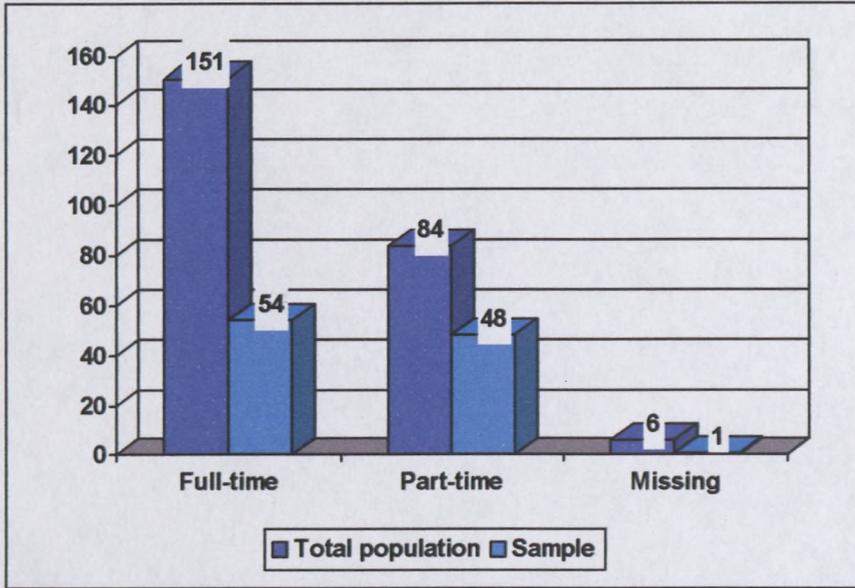


Figure 3.2 Comparison of population and sample data for full-time and part-time students.

3.4.3 Faculty

The response rate ratio was fairly consistent in the Faculties of Arts, Commerce and Engineering & Science, except in the Faculty of Health, which was less than half, or 39%. This is surprising because, as a Faculty, the students from the Health Sciences were collectively the most dissatisfied.

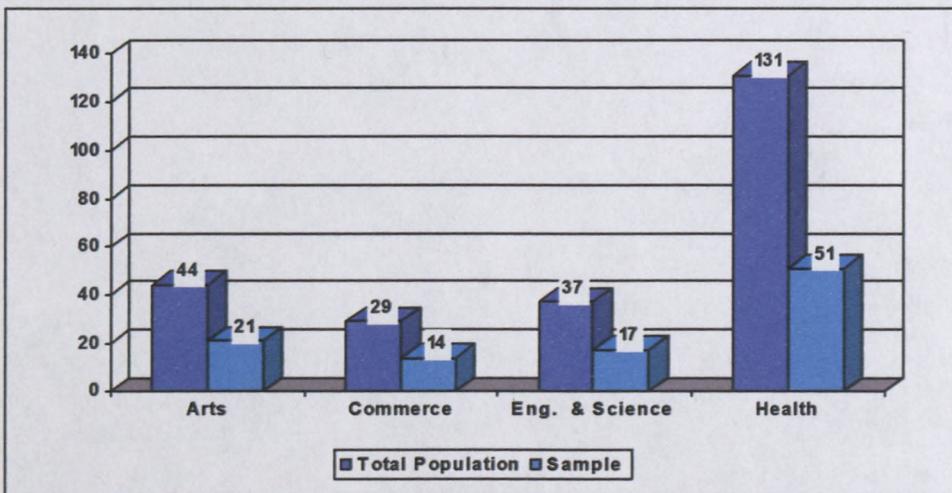


Figure 3.3 Comparison of population and sample data across faculties

3.4.4 Gender

There were slightly more male postgraduate students, both in the sample and the total population, although the differences are quite small.

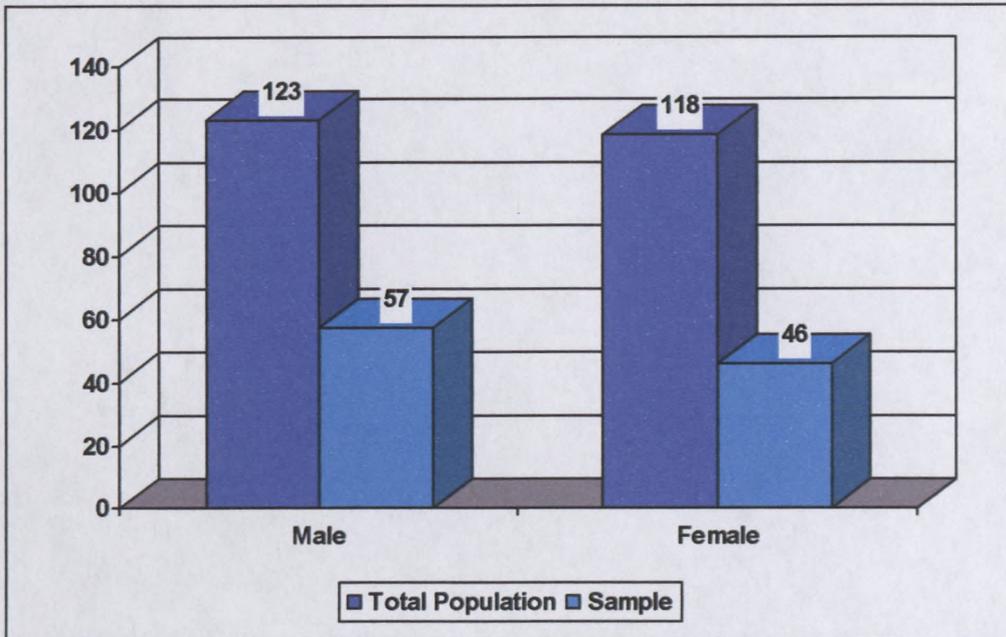


Figure 3.4 Comparison of gender of population and sample data.

3.4.5 Age

The majority of students in the total population were aged between 22—27, most having embarked on their postgraduate careers immediately after completing their first degrees. For this reason, it is not surprising that the largest number of responses were received from this age group.

The reason for the small return rate by students between the ages of 28—33 could be because at least 45 of them were in the Homoeopathy and Chiropractic departments and may not have received their questionnaires.

The surprisingly large number of students in the total population in the 46-and- over age group could be due to the fact that the institution has actively encouraged its academic staff to improve their qualifications in recent years. Many academics had joined the Technikon Natal at a time in the Technikon history when it was normal practice to recruit experts from industry who did not necessarily have academic qualifications. The changes

in higher education have now compelled technicians to embark on research and many 'veteran' lecturers may have felt threatened by younger competition (and the inducements by management) to improve their qualifications.

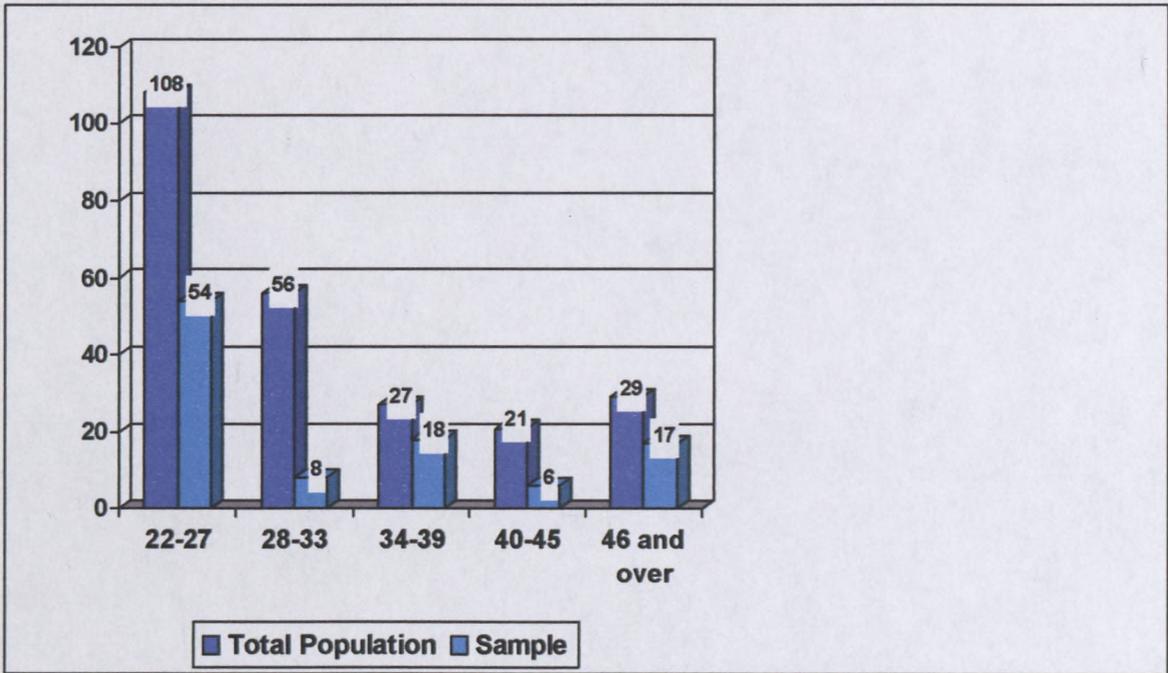


Figure 3.5 Comparison of age in population and sample data.

3.4.6 Race

The majority of postgraduate students were in the white race group. However, there has been a significant increase in the number of black and Indian postgraduate students since 1992, when there were only 19 post-diploma black students, and no Laureatus students (Statistical Brochure 1992:33). Proportionately, per group, the white population returned the least questionnaires.

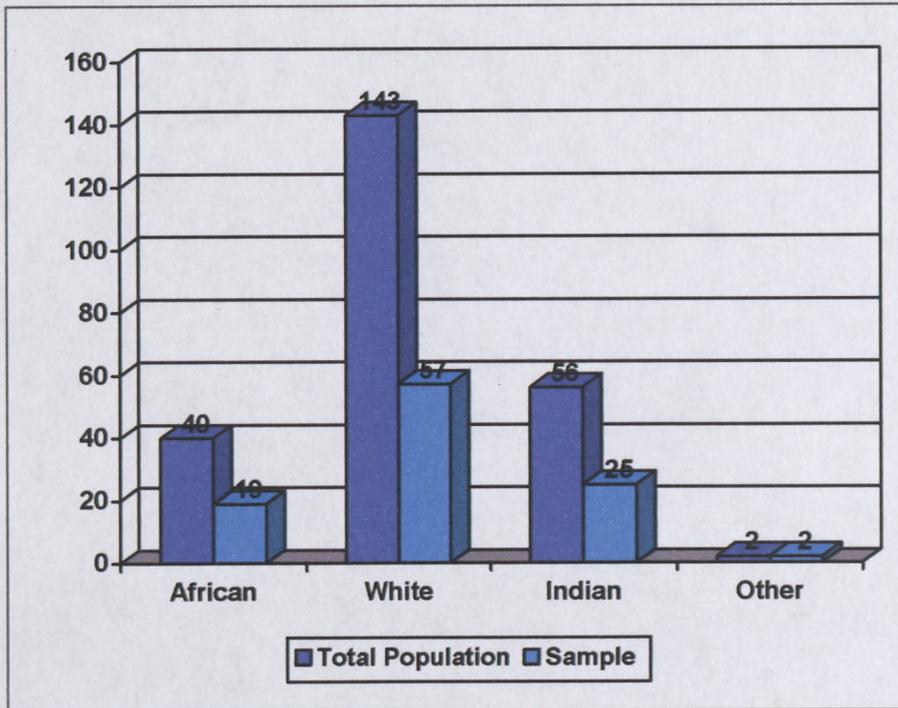


Figure 3.6 Comparison of total population and sample data with regard to race
 Other: Did not specify a race group, or stated race group as coloured.

3.4.7 Home language

The majority of postgraduate students in the sample were English-speaking. It was unfortunate that language data for the total population was not available on the Technikon Natal's database.

Table 3.2 Home Language Recoded (English/ Non-English)

		Frequency	Percent
Valid	English	73	70.9
	Non-English	28	27.2
	Total	101	98.1
Missing System		2	1.9
Total		103	100.0

3.5 Conclusions

The demography of the postgraduate students registered in 2001 at TN revealed that:

- The majority of postgraduate students were Master's, and most Master's students were in the Faculty of Health. The doctoral population was small, a cause for concern for the institution.
- The majority of postgraduate students in the total population were full-time. There was only a small difference between full-time and part-time students in the sample, revealing that proportionately more part-time students returned their questionnaires. The Faculty of Health recorded the least returns but the most student registrations. Therefore a weakness in this study could be that the Faculty of Health was not fully represented in this study.
- The Faculty of Health had the most postgraduate students but the sample did not reflect a high return rate. As mentioned previously, follow-up telephone calls revealed that these students tend to leave Durban to go home or overseas once they graduated so were difficult to trace.
- There was no significant difference in gender registrations.
- Most postgraduate students were in the 22-27 age group and most were white. However, Indian and black numbers have increased since 1992. The numbers of students in the 46-and-over age groups in the total population were unexpectedly large, probably because since 1993 the institution had actively encouraged academic staff to improve their qualifications.
- The majority of postgraduate students in the sample were English-speaking and it would be fair to conclude that those were mostly white, considering Figure 3.5 (Comparison of race of population and sample data). The Technikon's database did not have information on the home language of its postgraduate population.
- It is considered fair to conclude that the sample was representative of the postgraduate student population at Technikon Natal in 2001, because of the fairly consistent returns on the highest key variables in the sample profile and total population.

Table 3.3 Comparison of total population and sample

	Total Population	Sample
Language (English)	-	79,9%
Course (Master's)	93%	93%
Race (White)	55%	55%
Full time	53%	52%
Faculty (Health)	50%	50%
Age group (22 – 27)	52%	52%
Gender (Male)	55%	51%

CHAPTER 4

RESULTS

4.1 Introduction

The key research question of this study: “How do we know that we are offering the postgraduate research student a quality experience?” is enumerated in three main themes, namely, supervision, communication and institutional support and various sub-themes relating to the face-to-face interview, focus group and literature survey.

The discussion begins with general themes in the qualitative data from the face-to-face and Focus Group interviews. In the next section the basic responses to structured questions in the relevant Tables, followed by individual comments from the Focus Group, and comments from the questionnaires are shown, to identify and compare patterns and trends.

4.2 Face-to-face and focus group interviews

The most important aspect that emerged from the following face-to-face-interview was this student’s dissatisfaction with the supervisory process, particularly in terms of the internal supervisor. The student indicated that the internal supervisor did not have the necessary expertise to supervise a student who was using qualitative research methods:

“I am in a situation where my main supervisor, who is Technikon-based, is far less able to supervise my research than my co-supervisor, who is not Technikon-based.”

This student believed that the Technikon research tradition is operated within very narrow parameters, and that research methodology is under-developed as a subject at Technikon Natal. The student’s experience was also that the co-supervisor understood the qualitative aspect of the research better than both the Technikon supervisor and members of the Research Committee at Technikon Natal.

Focus Group Interviews

The results of the Focus Group interviews indicate that, in general, these students were frustrated with their postgraduate experience. Only one student, who belonged to a Research Centre, out of a total of six students interviewed felt that the experience had been a positive one.

The main themes identified in the data from the individual Focus Group participants reveal that students had issues with several aspects of their research experience. They commented about the lack of sufficient available expertise, including insufficient supervisors for students. Furthermore, they complained about the lack of resources and the poor communication from the institution about postgraduate issues. These students also complained about insufficient funding, the lack of departmental support and the subject “Research Methodology”. They were more positive about their library experiences, and one student from a Research Centre was very positive about the support from the Centre. These findings were reflected in the responses to structured questions and open-ended comments in the questionnaire, as is demonstrated in the next section.

4.3 Descriptive and Qualitative Statistics

The data from the survey is examined in terms of the following themes:

- Perceptions and experiences of supervisors and the supervision process
- Students’ experience of the institution generally and institutional infrastructure (communication, finance, resources, expertise, departmental and faculty support)
- Methodology and statistics
- Issues of time

4.3.1 Student perceptions of their supervisors and the supervision process

The responses to 13 questions on supervision are presented in descending order (% Agree) in Table 4.1 overleaf.

Table 4.1 Student perceptions about their supervisors

	Strongly Disagree/Disagree		Neither Agree nor Disagree		Agree/Strongly Agree		Total
	Count	%	Count	%	Count	%	Count
My supervisor was understanding if personal problems arose	12	13%	20	21%	64	67%	96
I am satisfied with my supervisor	15	15%	18	18%	67	67%	100
My supervisor motivated me to do my best work	11	11%	22	22%	65	66%	98
Lack of sufficient supervisors means that their time with you is limited	24	24%	9	9%	65	66%	98
My supervisor has a good knowledge of my research area	21	21%	16	16%	62	63%	99
I have access to my supervisor when I need it	28	27%	10	10%	61	60%	99
Contact with my supervisor resulted in regular remarks on my progress	19	19%	20	21%	58	60%	97
My supervisor always returns my corrected work on time	26	27%	15	15%	56	58%	97
My supervisor and I worked out my project plan together	30	31%	14	15%	51	54%	95
I am satisfied with the quality of supervision I receive	35	35%	13	13%	53	52%	101
Interaction with my supervisor resulted in regular advice on my progress	27	27%	21	21%	53	52%	101
I received good guidance in my literature search from my supervisor/s	31	31%	17	17%	51	51%	99
My supervisor has too many other students to supervise	34	36%	22	23%	39	41%	95

The main patterns and salient points to these responses followed Mouton's (2001) conceptual framework on supervision, where he identified the supervisor as:

<u>Advisor</u> (relationships)	<u>Expert</u> (knowledge)	<u>Quality Controller</u>	<u>Counsellor</u> (motivation)
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1) Supervisor as advisor

- My supervisor and I worked out my project plan together (54% A)
- Interaction with my supervisor resulted in regular advice on my progress (52% A)
- I received good guidance in my literature search from my supervisor/s (51% A)

Responses to the structured questions indicated that, on average, respondents were positive about their relationships with their supervisors and appreciated their advice.

The Focus Group participants were positive about some aspects of their relationships with their supervisors, but negative about others:

- I have a good relationship with my supervisor, although informal.
- My supervisor is very supportive.
- Relationship with supervisor is good on a personal level possibly because we work together and an effort is made.
- I have been very fortunate with my supervisors.
- If it weren't for the fact that I joined eSATI research cluster team, I would have given up my Master's studies. They help with supervision and hold workshops.
- My relationship with my supervisor is more on an employer/employee basis, one of delegation. By that I mean that the research proposal is critiqued by the Research Manager in the research unit and then submitted to my supervisor.
- Not enough supervisors for postgraduate work.

A selection of open-ended comments, which specifically addressed the role of the supervisor as advisor, shows that most students valued their supervisors' advice and responded accordingly:

Part-time, female, African, Zulu, Master's student, aged between 22 and 27, from the Faculty of Engineering & Science:

"Supervisors mustn't be too tough on their students, this could lead to suicide. Just want to thank my Internal Supervisor. She was everything a student could ever ask for – keep it up and God Bless."

Part-time, female, African, Zulu, doctoral student, aged between 34 and 39, from the Faculty of Health:

“I have a very supportive and informative/knowledgeable co-supervisor. This helps to augment/supplement my main supervisor’s busy schedule. My co-supervisor is accessible and approachable. Very supportive and is a specialist in the field that I’m looking at. I am very proud of her.”

Part-time, male, African, Zulu, Master’s student, aged 46 or over, from the Faculty of Arts:

“I had a very good supervisor who guided me always and even motivated me when I became lazy...”

Part-time, female, Urdu, Indian, Master’s student, aged 46 or over, from the Faculty of Arts:

“My supervisor was excellent. Knowledgeable, motivating and sympathetic. I completed my F.D.E. (Commerce) and enjoyed the course. I subsequently thought of furthering my studies at TN. Would I re-register with TN – NO NEVER AGAIN. And this is not because of my supervisor.”

Part-time, female, white, English, Master’s student, aged between 22 and 27, from the Faculty of Arts:

“I am happy with my supervisor as I do receive adequate assistance and encouragement.”

However, there was also the odd negative response!

Full-time, female, African, N.Sotho, Master’s student, aged 46 or over, from the Faculty of Arts:

“...I found myself being tossed between my supervisor, co-supervisor, the statistician, the HOD and the Dean and the editor of my work. I couldn’t hold back my tears when feeling this questionnaire. I feel like I’m reviewing terrible ordeal. I hope and pray to get a lecturing post in order to help other people somewhere in this South Africa who encounter such problems. Finally I pray the DIT emerge with solution to this kind of problems.”

On the matter of the advisory role of the supervisor, both the structured and open-ended responses suggest that students – although not overwhelmingly positive – generally experienced this aspect of the supervisory relationship as being positive.

2) Supervisor as expert

Students were positive about this aspect of their supervision:

- My supervisor has a good knowledge of my research area (63%)

This Focus Group participant was satisfied with the supervision in terms of expertise, but felt that the supervisor was under pressure:

- My supervisor is an expert in the field I've chosen but she is overseeing at least 10 Master's students plus her workload as HOD.

A selection of open-ended comments regarding the supervisor as expert reveals that students from the Faculty of Health had more negative responses:

Full-time, male, white, English, Master's student, aged between 22 and 27, from the Faculty of Health:

“We should be able to sit in on committee meetings involving our research or at least our supervisor should. We need lecturers or supervisors with many years of experience and who are qualified at higher levels to be in charge of the research programme in the chiropractic department. I've had absolutely no formal training in the use of the SPSS stats programme.”

Full-time, male, white, English, Master's student, aged between 22 and 27, from the Faculty of Health:

“Supervisors not experienced enough and overworked and underpaid. Dept. needs some consistency on what research is wanted. Dept. needs to decide whether doing the research is for learning purposes or if it actually wants to contribute to the chiropractic pool of research properly. If the latter is intended far more supervision and funding is IMPERATIVE!”

This student had a positive response:

Full-time, male, white, English, Master's student, aged between 22 and 27, from the Faculty of Health:

“My supervisor and Department were well informed and useful on my topic and research criteria.”

As far as the expertise of the supervisor was concerned, the structured and Focus Group responses were positive. The open-ended responses, however, show that students generally experienced this feature of the supervisory relationship as being more negative although not overwhelmingly so.

3) Supervisor as quality controller

- I am satisfied with the quality of supervision I receive (52%)

While 52% of students agreed with the statement, 35% disagreed with it and 13% were unsure. The students' responses seem to indicate that they were dissatisfied with some aspects of the quality of their supervision.

The students in the Focus Group would prefer a more structured relationship with their supervisors:

- A proper contract with a supervisor would be advantageous.
- My co-supervisor is actually my administrative supervisor and fortunately knows the system quite well but the supervisor is in the dark sometimes.

Only one student commented on the poor quality of supervision in the open-ended section:

Full-time, female, English, white, Master's student, aged between 22 and 27, from the Faculty of Health:

“Supervisors are very poorly paid – poor quality guidance.”

Regarding a supervisor as Quality Controller, students in most categories were not over-complimentary and one was quite critical.

4) Supervisor as counsellor

Students had few problems with supervisors as counsellors:

- My supervisor was understanding if personal problems arose (67% A)
- Contact with my supervisor resulted in regular remarks on my progress (60% A)
- My supervisor motivated me to do my best work (66% A)

The following selection of open-ended comments about the role of the supervisor as counsellor shows that students were appreciative of their supervisors:

Part-time, female, Indian, English, Master's student, aged between 22 and 27, from the Faculty of Health:

"The availability of my supervisor has allowed me to remain positive with my research. His continual motivation and guidance has stood as a great pillar of strength for me, allowing me to continually reassess and persevere with the research."

Part-time, female, African, Zulu, Master's student, aged between 34 and 39, from the Faculty of Arts:

"My interest in research is improving as I work with my supervisor. I am motivated."

Responses to both structured and open-ended questions on supervisors as counsellors reveal that students had few problems in this regard.

Issues of Time, Accessibility and Feedback with regard to supervision are examined next.

Responses regarding time, accessibility and feedback from supervisors:

With regard to the following structured statements, the responses show that students were positive about access, contact, feedback and guidance from their supervisors. They were, however, rather negative about the numbers of students supervisors have to supervise, which limits their time:

- Lack of sufficient supervisors means that their time with you is limited (66% A)
- I have access to my supervisor when I need it (60% A)
- Contact with my supervisor resulted in regular remarks on my progress (60% A)
- My supervisor always returns my corrected work on time (58% A)
- I received good guidance in my literature search from my supervisor/s (51% A)
- My supervisor has too many other students to supervise (41% A)

The responses from one Focus Group participant reveal a deep frustration about the lack of feedback from, and time available to spend with supervisors:

- Lack of supervisors means that their time with you is limited.
- Been waiting two months to get document corrected by supervisor.
- My problem is not a lack of expertise, but a lack of time that she can devote to any particular person.
- Not enough supervisors for postgraduate work.
- Lack of time means no in depth supervision.
- It takes an incredible amount of time to supervise and critique research.
- Been waiting 2 months to get the document corrected by the supervisor.

The open-ended comments show that students experienced enormous difficulty with these aspects of their supervision:

Part-time male, white, English, Master's student, aged 46 or over, from the Faculty of Commerce:

“No lecturer should be allowed to have an M.Tech student unless the H.O.D. is satisfied that he/she has enough time to spend with the student - for the next 2/3 years.

A minimum of 4 hours should be spent with the student looking at pros and cons of the M.Tech subject related issues, before any decisions are made.

The student and lecturer should meet for at least 1 hour every 2 weeks thereafter to sort out problems and give guidance.

A fair 'time' contract should be agreed on for progress of the M.Tech, before the research begins.

An 'outside' body needs to be available to mediate in problems from both parties (ex. M.Tech students should make up part of this body.

A formal code of conduct needs to be established.”

Full-time, female, Indian, English, Master's student, aged between 22 and 27, from the Faculty of Health:

"My supervisor had viewed our topics but didn't see any pitfalls in 2001 but when we did hand in our G186s he had then noticed an error with our topics, which then resulted in our research being re-edited and hence delayed. We had corrected them (errors) and handed over final G186 in March 2002 but in April we find out they were misplaced and never reviewed, but they eventually found them (G186). Until three weeks ago they were not looked at (3 months delay since). Last week after much waiting they were approved, and is presently at Ethics.

The only reason they were approved was due to the fact that we had spoken to who then added pressure on our supervisor. We are presently 4 months delayed in research and in our timeframe and still we await approval by ethics. Our co-supervisor was very helpful but it had always be seen by our supervisor hence he couldn't make much decision. We even considered changing supervisors. We are at risk of registering for next year, if our R186s are not approved by July (2002)."

Full-time, female, Indian, English, Master's student, aged between 22 and 27, from the Faculty of Health:

"As my research supervisor was unavailable (was on leave) assistance required and guidance was obtained via the co-supervisor. He is incredibly supportive and very helpful. I have only praise for him. Our department is very slack. At least 2 months have been lost (valuable time) because the 'research people' were away on their projects. I strongly feel that those appointed for research must be available and easy to contact. There should be other supervisors available for their projects."

Full-time, female, African, Zulu, Master's student, aged between 22 and 27, from the Faculty of Health:

"My co-supervisor is the one who had a great input on my research proposal and he happens to be a Doctor who has his practice out of NT. My point is that the Department staff members are too occupied with improving their own skills and are forgetting about the students who are doing research (who should be their first priority), and one regrets ever not approaching an outside supervisor as the main

supervisor since these people have a greater knowledge and experience about the various disease conditions.”

Part-time, male, African, Master’s student, aged between 40 and 45, from the Faculty of Arts:

“It is time consuming to be supervised by a supervisor with many students. Time and money is wasted due to the lack of proper guidance from the supervisor.”

Conclusions:

- Students were positive but not overwhelmingly so regarding their supervisor as advisor.
- Responses from structured questions and the focus group reveal that students were slightly more positive than negative regarding their supervisor as an expert whereas the open-ended comments were more negative.
- Students were slightly more negative towards their supervisor as quality controller.
- Students had few problems regarding their supervisor as counsellor.
- The main negative trend identified with regard to postgraduate students and their supervisors was undoubtedly that of insufficient time to spend with students.

4.3.2 Students’ experiences of institutional communication

The students’ responses to 15 questions on experiences with institutional communication practices are presented in descending order in Table 4.2 overleaf.

Table 4.2 Students' Experiences of Institutional Communication

	Strongly Disagree/Disagree		Neither Agree nor Disagree		Agree/Strongly Agree		Total
	Count	%	Count	%	Count	%	Count
A postgraduate information kit is important on registration	1	1%	7	7%	90	92%	98
An orientation programme for postgraduate students is important	9	9%	13	13%	79	78%	101
There is a lack of information about postgraduate issues	12	12%	23	22%	68	66%	103
There should be more information available on Intellectual Property Rights	5	5%	29	31%	61	64%	95
There are insufficient guidelines on how to proceed when you first register	26	25%	14	14%	62	61%	102
I did things wrong because no one told me - I learnt through word of mouth	23	25%	18	19%	52	56%	93
There is no communication between Dept. and Faculty about postgraduate issues	11	12%	39	41%	45	47%	95
I understand issues relating to intellectual property rights	28	29%	25	26%	45	46%	98
There is no communication between department and student	34	34%	28	28%	37	37%	99
My dept. has been helpful in providing information about postgraduate procedures	48	48%	16	16%	37	37%	101
Given opportunity to develop networks and contacts with outside organisations	50	52%	17	18%	29	30%	96
The Faculty Office provides all the necessary information postgraduate students need	48	49%	21	21%	29	30%	98
I am well informed about what is involved in the thesis examination	51	57%	22	25%	16	18%	89
There is no need for orientation because I got all the information I needed	61	64%	19	20%	15	16%	95
TN provides sufficient information on employment options for postgraduates	52	62%	23	27%	9	11%	84

The structured statements in the foregoing table on institutional communication are reorganised into the different aspects of communication in this study to facilitate discussion:

Registration	Orientation	Proposal	IPR	Examination	Dept/Faculty	Networks	General
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1) Communication and registration

Students' strong responses to the first statement indicate that there is an overwhelming need for information on registration. This is reinforced by the strong support for the second statement:

- A postgraduate information kit is important on registration (92% A)
- There are insufficient guidelines on how to proceed when you first register (61% A)

The negative perceptions of the information available on registration is reinforced by the Focus Group participants:

- There was no information available on registration (chaos). It was difficult to register (took 6 months, until Prof in another department assisted me)
- It took me two weeks just to register at the registration office because nobody knows what's going on.

2) Communication and orientation

The responses to these statements indicate that students were adamant that they require an orientation programme:

- An orientation programme for postgraduate students is important. (78% A)
- There is no need for orientation because I got all the information I needed. (64% D)

One Focus Group student's strong opinion about an orientation programme illustrates frustration regarding non-communication from the institution:

- There should be an orientation programme for Master's students to familiarize them with what's going on, how things work and who is in charge, where they can find things and what is available.

3) Communication and research proposal writing

A single comment about communication and research proposals was elicited:

Full-time, female, white, English student, aged between 22 and 27, from the Faculty of Health:

“Little information is provided, from drafting a proposal through to submission resulting in avoidable errors being submitted, corrected etc – effectively wasting time. Guidelines and protocol should be posted to every registered research student.”

4) Communication and IPR

The negative responses to the following statements indicate that students need more information about IPR:

- There should be more information available on Intellectual Property Rights (64% A)
- I understand issues relating to intellectual property rights (46% A, 29% D, 26%

5) Communication and the examination process

Although the majority of students who responded to the structured question on the examination process felt that they were not sufficiently familiar with it, it did not elicit any comments from the Focus Group participants or feature in the open-ended comments:

- I am well informed about what is involved in the thesis examination. (57% D)

6) Communication between department/faculty and students

Students were given four opportunities to respond to questions regarding communication and their departments/faculties. In all four responses, the results were largely negative:

- The Faculty Office provides all the necessary information postgraduate students need (49% D)
- My dept. has been helpful in providing information about postgraduate procedures (48% D)
- There is no communication between Dept. and Faculty about postgraduate issues (47% A)
- There is no communication between department and student (37% A)

Focus Group participant revealed a more forceful conviction about the lack of communication:

- There is a huge gap between the department, faculty and central research committee.

This response from the open-ended section concurs with the Focus Group participant:

Full-time, female, white, English, Master's student, 22–27, from the Faculty of Health:

“You have to do so much running around between the departments to find out what you have to do. No one tells you what is required. You are NEVER informed when things change; fortunately I have had contact with students a year ahead of me. That is where I go the guidance from I learned from the mistakes they made.”

7) Communication about Networks

Students responded quite strongly to the structured statements that the Technikon does not provide sufficient information on employment options and less strongly that they are given the opportunity to develop networks:

- TN provides sufficient information on employment options for postgraduates (62% D)
- Given opportunity to develop networks and contacts with outside organizations (52% D)

8) General Communication

The responses to the following statements reveal that students thought there is generally a lack of information available about postgraduate issues:

- There is a lack of information about postgraduate issues (66% A)
- I did things wrong because no one told me - I learnt through word of mouth (56% A)

The sentiments of the Focus Group participants concurred which is clearly revealed by their negative comments pertaining to general communication from the institution:

- I might as well not exist – I receive no correspondence or information.
- No guidelines.
- There is a lack of communication, lack of commitment, lack of information.
- I would like to see the process centralized again so you can have a dedicated person to handle postgraduate students.
- You've got no-one to turn to when you are a postgraduate student.
- No-one knows who you are.
- You must have people who know the process, people who can tell you if there is a deadline.

The following open-ended comments explicitly addressed the role of the institution in communicating to students:

Full-time, female, white, German, Master's student, 22–27, from the Faculty of Health:

“Most of the things I heard were through word of mouth. Nobody knows what is going on!”

Full-time, female, African, Zulu, Master's student, aged between 22 and 27 from the Faculty of Health:

“Research is a nightmare at TN because of lack of communication between students, supervisors and statisticians!!!”

Conclusions:

- Students have serious issues in all categories of communication regarding the institution.
- Students require more information on how to register, how to draft a research proposal, the examination process and IPR.
- Students' overwhelming need for an orientation programme that would inform them about what is going on, where to find things, who is in charge and what is available is a poor reflection on departments, faculties and the institution as a whole.
- There should be more communication between departments and faculties and students about postgraduate issues and procedures.
- Generally, the Technikon should communicate more with postgraduate students.

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- Generally, the Technikon should communicate more with postgraduate students.

4.3.3 Students' perception of the technikon generally

The students' responses to 23 questions on their perception of the Technikon generally are presented in descending order in Table 4.3 overleaf.

Statement	Frequency	Percentage	Rank
The way Technikon lecturers teach is very motivating	41	37%	1
The Technikon should give staff more staff to improve their qualifications	37	33%	2
Students do not have to accept the entry test	32	29%	3
The registration process is simple and straightforward	27	25%	4
I have often felt isolated during my undergraduate studies	25	23%	5
The focus of TN is on undergraduate work	24	22%	6
There is a lack of commitment or genuine love for the institution in postgraduate students	23	21%	7
The courses are practical enough to prepare me for the outside world	22	20%	8
My research supervisor motivates me each year	21	19%	9
The way TN handles mature students is poor	20	18%	10
It is advantageous to having a research unit or centres at TN	19	17%	11
I learned to develop my ideas at TN and depend them in my written work	18	16%	12
I was encouraged to publish my work	17	15%	13
There is not a single system here with a focus on postgraduate studies	16	14%	14
System is geared towards postgraduate studies	14	13%	15

Table 4.3 Students' Perception of the technikon generally

	Strongly Disagree/ Disagree		Neither Agree nor Disagree		Agree/ Strongly Agree		Total Count
	Count	%	Count	%	Count	%	
The only reason I can cope with my studies is because I am very persistent	9	9%	16	16%	76	76%	101
The Technikon should give study leave to staff to improve their qualifications	3	4%	18	21%	63	75%	84
I should not have to re-register every year	20	20%	10	10%	70	70%	100
The registration process is simple and straightforward	17	17%	17	17%	64	65%	98
I have often felt isolated during my postgraduate studies	22	22%	13	13%	64	65%	99
The focus at TN is on undergraduate work	9	9%	29	30%	60	61%	98
There is a lack of commitment in general from the Institution to postgraduate students	15	15%	27	27%	59	59%	101
The courses are practical enough to prepare me for the outside world	23	25%	17	18%	52	57%	92
My research experience improves each year	21	24%	22	25%	44	51%	87
The way TN handles mature students is poor	33	33%	19	19%	48	48%	100
It is advantageous to belong to a research unit or centres at TN	15	18%	29	36%	37	46%	81
I learned to develop my ideas at TN and present them in my written work	28	28%	26	26%	45	45%	99
I was encouraged to publish my work	22	24%	32	36%	35	39%	89
There is not a single system here with a focus on postgraduate students	24	25%	33	35%	37	39%	94
System is geared towards postgraduate studies	43	45%	18	19%	34	36%	95

I was provided with a stimulating and challenging environment at TN	42	42%	21	21%	35	36%	98
There are opportunities for professional contact with academic staff and researchers	44	46%	18	19%	34	35%	96
Most of my fellow students have dropped out or are thinking about it	32	39%	22	27%	28	34%	82
Overall, I am quite satisfied with the quality of my higher degree research experience	42	42%	25	25%	33	33%	100
The Technikon does not understand my needs	32	33%	33	34%	32	33%	97
The TN research Ethics Policy is clearly defined	45	46%	27	28%	26	27%	98
There are opportunities for being involved in a broader research culture at TN	51	53%	19	20%	26	27%	96
Research administration is well organized at TN	40	43%	38	41%	15	16%	93

The main patterns and salient points in these responses on the Technikon generally were grouped together under the following categories:

- General perceptions about the Technikon
- The institution's commitment in support of postgraduate students
- The research milieu
- Isolation during postgraduate studies
- Registration procedures and processes

1) General Perceptions about the Technikon

For many students, persistence was the key to surviving at the former TN. Students were more positive about the courses, less so about being able to develop their ideas and even less so about the environment. Students were not sure on the issue of who was dropping out. The inconclusive opinions about the Technikon not understanding their needs in the last statements reveal that students had mixed feelings.

Mixed

- The only reason I can cope with my studies is because I am very persistent (76% A)
- The courses are practical enough to prepare me for the outside world (57% A)
- I learned to develop my ideas at TN and present them in my written work (45% A)
- I was provided with a stimulating and challenging environment at TN (42% D)
- Most of my fellow students have dropped out or are thinking about it (39% D, 34% A)
- I was encouraged to publish my work ((39% A)
- The technikon does not understand my needs (33% A, 33% D, 34% unsure)

feelings from the Focus Group participants:

I've really enjoyed myself, learnt a lot. Great experience.
I registered at Technikon Natal because I did not have a choice, it was the only feasible solution in my field.

The seven strongly negative comments are an indictment on the institution generally which is hardly alleviated by the three positive comments in this section on the Technikon:

Full-time, male, white, English, aged between 22 to 27, Master's student from the Faculty of Health:

"In my experience the post-grad. programme at Natal Technikon has done little to extend my knowledge. I have lost valuable experience in the 3 years I have been battling to complete my degree. ... Will the institute now known as the Durban Institute of Technology finally step in and claim some responsibility? I find these procedures entirely amateurish as they would not be accepted by any other tertiary institution at home or abroad. I can only hope that they act timely to end these foolish shenanigans. At present I am entirely dissatisfied with the services I have been provided in respect of my degree."

Full-time, male, Siswati/English, African, Master's student, aged between 28 to 33, from the Faculty of Health:

"Very discouraging. Very daunting. Very de-spiriting. Very traumatic. Extremely frustrating, to say the least. It has been extremely de-motivating not to have been given good support and co-operation no matter how hard I did my best. ... Nonetheless it gives me pleasure to say, I gave it my all,

under the circumstances. Technikon Natal could not accommodate me, and as a result I was forced to look for research facilities elsewhere. A very daunting experience. Very little support was forthcoming from Technikon Natal nor from my department. I spent a great deal of my own little money just to make sure that at least I complete my research. I had to wait for almost ten months before I could get feedback on the approval of my initial research proposal. I was very devastated to be told after such a long time that all my documents had disappeared from the Faculty Office – very bizarre. Therefore I had to start from scratch and had to wait for an additional lengthy period. I had already spent a lot of my own money at that stage. However I am glad to say that I took all these obstacles in good spirit. My courage, perseverance, patience and focus have helped me to carry on despite the odds. It is my wish and prayer that what I have gone through should not happen to anyone again. In a nutshell – As far as postgraduate research is concerned there is still a great deal of improvement that the Faculty of Health needs to go through, the sooner the better. We hope for the best.

I submitted my dissertation for examination in February 2002, and I was told that I would get feedback within 6 weeks. Believe it or not I am still waiting up to this day – several months down the line.

I just hope I am not going to be told that my dissertation has got lost or disappeared – like it happened with my research proposal after having waited for close to a year.

I have worked so hard and sacrificed so much – and it seems to me nobody cares.

Surely I have been subjected to very severe emotional trauma at this institution.

Of course I regret why I came to pursue my studies here. However, I am still optimistic, patient and courageous. My hard work, my sweat and tears have not been in vain. Quite frankly, I don't care anymore whether I get my qualification here or not. I need to move on. It gives me pleasure to say I did the best I could, I gave it my all.

It is still my wish and hope that the pain that I have been subjected to doesn't happen to anyone in future.

It has been a long and winding road.

EXTREMELY UNPLEASANT EXPERIENCE.
LET US BUILD AND NOT DESTROY.”

Part-time, male, Indian, English, Master’s student, aged between 22 to 27, from the Faculty of Health:

“Technikon Natal on the whole was excellent, but...Research Committee was terrible, except for...and...was de-motivating, rude and unhelpful. She made me beg for my proposal to be accepted.”

Full-time, female, Indian, English, Master’s student, aged 22–27, from the Faculty of Health:

“Overall, the experience is great. I have learned a lot from fellow graduates at my department... Thank you Technikon Natal for your input to help better the lives of many in the environmental health field. I am a proud graduate of this institution.”

Full-time, female, white, English, Master’s student aged between 22 and 27, from the Faculty of Health:

“So far, the experience has been a nightmare for me, and I have not yet even started research. It has taken me six months, and still counting, to get the G186 approved. The process is extremely slow.”

Full-time, female, African, Zulu, Master’s student, aged between 22 and 27, from the Faculty of Health:

“It makes one be so pessimistic and feeling sorry for the next students who will be treated almost the same way as most of us have been.”

Part-time, male, isiZulu, African, Master’s student, from the Faculty of Arts, aged 46 or over:

“My research experience was so fascinating but I have not finished because of ill health.”

Full-time, female, English, white, Master’s student, aged between 22–27:

“My research experience at TN has been highly traumatic, de-motivating, a waste of time and money.”

Full-time, female, N.Sotho, African, Master's student, aged 46 or over, from the Faculty of Arts:

"My higher degree research experience was a mental torture."

Full-time, male, English, white, Master's student, aged between 22 to 27, from the Faculty of Health:

"The committee knew little of my topic which their recommended changes reflected.

Constant changing of format hampered not only myself but my department as well, and extended the research's time by an unacceptable length.

I will not go into the incompetence of the Stats Department. Suffice to say I privately hired a statistician to confirm my results."

2) Perceptions about the Technikon's Commitment

To a lesser or greater degree, the statements in the box below show negative responses. The staff members were in no doubt about wanting study leave to improve their qualifications:

- The Technikon should give study leave to staff to improve their qualifications (75% A)
- The focus at TN is on undergraduate work (61% A)
- There is a lack of commitment in general from the Institution to postgraduate students (59% A)
- The way TN handles mature students is poor (48% A)
- System is geared towards postgraduate studies (45% D)
- There is not a single system here with a focus on postgraduate students (39% A, 35% unsure)

Focus Group participants were negative about the Technikon's commitment to them:

- The way Technikon handles mature students is poor.
- If I had a choice, I wouldn't remain here.
- System not geared towards postgraduate studies.
- System not geared towards students' needs.
- There is no support for Master's students.
- There is not a single system here with a focus on postgraduates.

An open-ended comment from a student about the Technikon's commitment reveals acute annoyance:

Part-time, male, white, English, Master's student, between the ages of 34 to 39, from the Faculty of Commerce:

"No interest in my work is shown. The only time the Technikon contacts me is when they want money! Will not be re-registering. This has been an expensive waste of time."

3) Perceptions of Research and the Technikon

The statements below, although not overwhelmingly so, reveal negative responses. Fifty-one per cent of students thought their research experience improved each year. However, 42% were dissatisfied with their overall research experience; of the 42%, most were in the Faculty of Health. It could be that the 51% who thought that their research experience improved each year were dissatisfied from the start, but things could be improving now.

- There are opportunities for being involved in a broader research culture at TN (53% D)
- My research experience improves each year (51% A)
- It is advantageous to belong to a research unit or centres at TN (46% A)
- The TN research Ethics Policy is clearly defined 46% D)
- Research administration is well organized at TN (43% D)
- Overall, I am quite satisfied with the quality of my higher degree research experience (42% D)
- There are opportunities for professional contact with academic staff and researchers (46% D)

This student from the Focus Group was reserved about research at the Technikon:

- Technikon does not inculcate an ethos of research into each department."
- Other academic institutions allocate one day a week for your research, Technikon Natal should do that.

The following response shows this student was negative about the Ethics Committee at the Technikon:

Full-time, male, white, English, Master's student, aged between 22 and 27, from the Faculty of Health:

"I felt that after my postgrad experience at Technikon Natal the ethics committee needs to consist of more people who understand and are directly involved in your research ..."

4) Perceptions of Isolation at the Technikon

A large majority of students agreed with this statement:

- I have often felt isolated during my postgraduate studies (65% A)

A selection of open-ended comments that addressed the issue of students' feelings of isolation reveals the following:

Part-time, female, English, white, Master's student, aged 46 or over, from the Faculty of Arts:

"As far as further years of study, I worked away from tech. and sometimes felt isolated though I managed to work alone as I am very familiar with my area of research. I was not pushed at this stage, which was fine for me but could be necessary with other students."

Part-time, female, English, white, Master's student, aged between 22– 27, from the Faculty of Arts:

"I have often felt very isolated during my postgraduate studies."

5) Perceptions of Technikon Natal and the Registration Process

It seems that the students were positive about the registration process itself, but communication from the Technikon regarding registration procedures is scant, as revealed in the last section on communication, and registration. Postgraduate students, however, definitely do not want to re-register every year.

- I should not have to re-register every year (70% A)
- The registration process is simple and straightforward (65% A)

This student from the Focus Group reinforced the above sentiment:

- You have to re-enrol every year, that is an irritation.

A cross-tabulation showing the overall satisfaction with the research experience (Question 61) across faculties is significant at the alpha .05 level with a high correlation:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.732 ^a	6	.007
Likelihood Ratio	18.385	6	.005
Linear-by-Linear Association	11.427	1	.001
N of Valid Cases	100		

^a 3 cells (25.0%) have expected count less than 5. The minimum expected count is 3.25.

Table 4.4

Overall, I am quite satisfied with the quality of my higher degree research experience (recoded) * Faculty Crosstabulation

			Faculty				Total
			Arts	Commerce	Engineering & Science	Health	
Overall, I am quite satisfied with the quality of my higher degree research experience (recoded)	Strongly disagree/disagree	Count	6	4	3	29	42
		% within Overall, I am quite satisfied with the quality of my higher degree research experience (recoded)	14.3%	9.5%	7.1%	69.0%	100%
		% within Faculty	28.6%	30.8%	18.8%	58.0%	42.0%
	Neither agree nor disagree	Count	3	3	6	13	25
		% within Overall, I am quite satisfied with the quality of my higher degree research experience (recoded)	12.0%	12.0%	24.0%	52.0%	100%
		% within Faculty	14.3%	23.1%	37.5%	26.0%	25.0%
Strongly agree/agree	Count	12	6	7	8	33	
	% within Overall, I am quite satisfied with the quality of my higher degree research experience (recoded)	36.4%	18.2%	21.2%	24.2%	100%	
	% within Faculty	57.1%	46.2%	43.8%	16.0%	33.0%	
Total	Count	21	13	16	50	100	
	% within Overall, I am quite satisfied with the quality of my higher degree research experience (recoded)	21.0%	13.0%	16.0%	50.0%	100%	
	% within Faculty	100.0%	100.0%	100.0%	100.0%	100%	

Table 4.4 clearly shows that there are significant ($X^2 = 17.732$; $p < 0.007$) differences between students' ratings of their postgraduate experiences with students in the Health Sciences Faculty being much more dissatisfied than students in the other faculties. In fact, slightly more students were positive than negative about their postgraduate experiences in these faculties. However, it is worth pointing out that a large proportion of Science and Engineering students (38%) were undecided on this matter.

Additional cross tabulations measuring the question "Overall, I am quite satisfied with the overall quality of my higher degree research experience" were done with regard to course, part-time or full-time, male/female, race and age, but none of these, except across faculties, proved to be statistically significant.

Conclusions:

- Students' attitudes towards the Technikon in general reveal negative responses.
- Students' responses show that they do not think the Technikon is committed to postgraduate students.
- Students' attitudes with regard to the way the Technikon communicates on postgraduate issues and procedures were negative.
- Students were negative towards the research ethos at the Technikon.
- Postgraduate students reported feeling isolated at the Technikon.
- Students' attitudes towards the Technikon with regard to the registration process were positive, but information regarding registration procedures is problematic.
- Overall, students were not satisfied with their research experience.

4.3.4 Students' Experiences of the Availability of Resources

The students' responses to eight questions regarding the availability of resources are presented in descending order in Table 4.5 set out overleaf.

Table 4.5 Students' experiences of availability of resources

	Strongly Disagree/Disagree		Neither Agree nor disagree		Agree/Strongly Agree		Total Count
	Count	%	Count	%	Count	%	
A dedicated postgraduate computer room is important			9	9%	87	90%	96
TN needs a postgraduate centre	3	3%	8	8%	90	89%	101
There should be a free writing consultancy available for postgraduate students	5	5%	19	20%	72	75%	96
Sharing of resources is no problem	31	34%	19	21%	41	45%	91
There is sufficient computer software for my research requirements	41	41%	15	15%	45	45%	101
The equipment provided to carry out my research is adequate	36	39%	18	19%	39	42%	93
I have good access to the technical support I need	44	47%	24	26%	26	28%	94
TN provides adequate insurance cover for researchers	26	32%	44	55%	10	13%	80

Students' perceptions about the availability of resources at the Technikon

The main patterns and salient points emerging from the structured questions regarding the availability of resources and the Technikon are set out below.

- There is strong support for a dedicated postgraduate computer room and postgraduate centre.
- Students would like access to a free writing consultancy.
- Students could do with more technical support.
- There is high uncertainty among the students about insurance cover.

Focus Group responses pertaining to perceptions of availability of resources were generally negative:

- Insufficient software, no sharing of resources (you have to ask for favours).
- Research Toolbox is an excellent programme, will assist postgraduate students.
- Problem with equipment – old computer to start with.
- Computers are fairly old in the faculty computer laboratory.
- In terms of equipment, I've had to fight for everything.
- We need facilities.

Students who commented on resources at the Technikon were mainly concerned about the lack of modern computer facilities:

Part-time, male, Zulu, African, Doctoral student, aged between 28–33, from the Faculty of Commerce:

“There should be dedicated resources (offices, telephone and PC’s) for PhDs”.

Full-time, female, French, white, Master’s student, aged between 22 and 27, from the Faculty of Commerce:

“The Master’s degree is the most difficult thing I ever did in my life as regards to studies. It was difficult partly because the working conditions were not adapted. For example, it was difficult to work in that small computer lab, where there is no space to put books and notes, where students were listening to loud music, and where you can get a computer 1 time out of four, because the lab was always full.

However, I am very happy and proud to have completed this diploma. I think I learnt a lot about long-term projects, persistence, the South African businesses and culture. I also gained self-confidence and maturity.”

Part-time, male, white, Master’s student, 46 years or older, from a Research Centre:

“The slow pace of my project has been determined by my own personal business commitments. The facilities, lecturers/supervisor is of the highest calibre. Everything that may be perceived as lacking is my own fault and not the Facility’s shortcoming.”

Full-time, male, English, white, Master’s student, between the ages of 22 and 27, from the Faculty of Health:

“There are no computer and printing facilities available that is of high enough standard to do research on, i.e. printing access and quality.”

Full-time, male, English, Indian, Master's student, aged between 22 and 27, from the Faculty of Health:

“Computer room available at all TN times and not only certain days of the week.”

Part-time, female, English, white, Master's student, aged 22–27:

“Not enough computers.”

Part-time, male, English, Indian, Master's student aged between 34 and 39, from the Faculty of Arts:

“My higher degree research experience has been an eye opener. It has exposed me to a wide knowledge base. It had taken me to a new level in my studies. Technikon Natal is very well resourced for research.”

Part-time, female, English, white, Master's student, aged 46 or over:

“I never established a good rapport with the library, and had a big problem with the audio-visual unit which is totally inadequate, both in staff and equipment. It was the cause of a wasted trip, 3 days work and caused me to have to redo work through a friend at Wits, which I paid for, as well as wasted travel expenses.”

Full-time, female, English, white, Master's student, aged between 22 and 27, from the Faculty of Health:

“There are not adequate facilities for post-grads.”

Conclusions:

- The main criticism from postgraduate students with regard to resources is undoubtedly a lack of sufficient modern computers, hence the support for a dedicated computer room and postgraduate centre.
- Students would like access to a free writing consultancy.

4.3.5 Students' perceptions about finance

The students' responses to five questions on perceptions of finance are set out in descending order in Table 4.6 below.

Table 4.6 Students' Perceptions about finance

	Strongly Disagree/ Disagree		Neither Agree nor Disagree		Agree/ Strongly Agree		Total Count
	Count	%	Count	%	Count	%	
There should be guidelines on how to draw up a research budget	1	1%	8	8%	92	91%	101
Even when funds are approved, it takes a long time to gain access to them	17	18%	20	22%	55	60%	92
The NRF has been supportive financially	24	31%	27	35%	26	33%	77
There is adequate financial support for my research activities	50	52%	21	22%	25	26%	96
It is easy to get funding for postgraduate studies	54	56%	27	28%	15	16%	96

Students' perceptions of finance and the Technikon

The main issue in the responses to the structured questions on finance and the Technikon was that students would like guidelines on how to draw up a research budget. Students also felt that it takes too long to gain access to funds once they are approved.

The first student from the Focus Group felt that the government pays enough for postgraduate students and therefore the Technikon should focus on them. The second student reinforced the strong trend for guidelines on how to draw up a research budget:

Focus of the institution is on undergraduate students, it is misplaced. Funding from the government for Master's students is high. The institution should focus on postgraduates. In that way they can build up more Master's students. I registered at TN because it was free. I tried desperately to get into the U.K. but the cost was prohibitive.

Nobody knows the guidelines to enable you to draw up a budget. I went to the department, faculty and finally the research office in order to find out what travel costs I could claim. That is why you need a dedicated person to deal with postgraduates.

This selection of students who commented on issues of finance were mainly concerned about their research budgets:

Part-time, male, English, Indian, Doctoral student, aged between 34 and 39, from the Faculty of Engineering and Science, a staff member:

“Financial management of research funding needs to be managed more efficiently to assist researchers and ultimately students. The institution should supplement postgraduate bursaries especially Master’s and doctoral”.

Full time, male, English, Indian, Master’s student, 22–27, from the Faculty of Engineering and Science:

“It was also good to see that there was money available to support ourselves during the 2 years. That was a deciding factor due to the fact that, as much as I wanted to study, I couldn’t survive without a salary.”

Full-time, male, English, white, Master’s student, aged between 22 and 27, from the Faculty of Health:

“Interdepartmental help was non-existent unless there was financial gain involved for the person (specifically HOD)”

Full-time, male, white, English Master’s student, aged between 22 and 27, from the Faculty of Health:

“On top of this the budget for research has been frozen for the past few months. In this time there has been no official apology from TN. As a student I worked two part-time jobs, once my research began I quit the one job so I would have more time to dedicate to my research, however, I now find myself having to dig into my savings in order to carry out the research. This money is my own and because of that I have to ask what legal claim does the institute have to the intellectual property rights when they have not sponsored the research from the beginning – perhaps they could buy the rights to the results at a price I deem suitable.

Since the funding has not been forthcoming my advertising has come to a halt, therefore it is much more difficult to obtain patients for my research project, I have requested a patient reduction (of numbers) as of a month ago

but I have yet to receive a response due to the irregular meetings held by the Research Committee. Surely as the sole provider of funding I should have the right to determine how the research is carried out?

In the meantime my ability to earn an income is restricted by the lack of a degree – who do I blame for the loss of this income? Plans for travelling abroad have also been put on hold indefinitely.”

Part-time, male, Zulu, African, Master’s student, aged between 28 and 33, a staff member from the Faculty of Health:

“The institution only allocated about 1/3 of the research funding that I actually required.”

Full-time, male, Indian, English, Master’s student, aged between 22 and 27, from the Faculty of Health:

“Funding was too little but once it was granted, this small amount was easily obtainable.”

Full-time, female, Indian, English, Master’s student, aged 22–27, from the Faculty of Health:

“The funding, especially the NRF for this degree (M.Tech: Environmental Health) was most discouraging. My field of research did not fit in with the category of funding available. My research was apparently “too scientific” as opposed to being related to social health issues. This response imposed a lot of negativity toward the Technikon.

I feel there is a lot of red tape around funding. My research is going to directly impact/improve the quality of life for thousands of communities locally, nationally and abroad. I believe that someone with a better understanding of my research should have judged/reviewed my proposal of the funding. The funding received from the Technikon was sufficient to provide basic stationery that I require. I honestly did not want to waste time in motivating for a sum greater than R10 000 (as I was told by word of mouth that the approval for this will take ages).”

Full-time, female, English, white, Master’s student, aged between 22 and 27, from the Faculty of Health:

“Funds – My budget was approved last September (2001), it is now July 2002 and funds still aren’t available!”

Male, English, white, doctoral student, aged 46 years or over, from the Faculty of Engineering and Science and a member of staff:

“No funds are available, due to the financial constraints due to the merger. No funds are available from outside sources. I am seriously considering discontinuing any further research work.”

Full-time, Indian, English, Master’s student aged between 22 and 27, from the Faculty of Health:

“The budget for our research is too little and we end up paying more for our research project than the Technikon.”

Part-time, female, English, Indian, Master’s student, aged between 22 and 27, from the Faculty of Health:

“The frustration of my research arises when issues of budget are not easily obtainable and the process of obtaining more financial support with my research is difficult and tiresome. This is a huge hindrance in my progress especially when time is not on my side.”

Full-time, female, English, white, Master’s student, aged between 22 and 27, from the Faculty of Health:

“There is insufficient funding (our govt. subsidy is used by TN to pay debts!)”

Conclusions:

- Students expressed the need for guidelines on how to draw up a Research Budget.
- There are insufficient funds for research.
- It takes too long to get budgets approved.
- It takes too long to gain access to the funds once they are approved.
- The most dissatisfied students in the open-ended comments were from the Faculty of Health.

4.3.6 Students’ perceptions about time and their studies

Students’ perceptions about time are presented in the six questions in descending order in Table 4.7 below.

Table 4.7 Students' perceptions about time and their studies

	Strongly Disagree/ Disagree		Neither Agree nor Disagree		Agree/ Strongly Agree		Total Count
	Count	%	Count	%	Count	%	
Getting my research proposal accepted is a problem in terms of the time it takes	15	15%	10	10%	72	74%	97
It takes too long to get my research proposal approved	13	13%	15	15%	71	72%	99
Not enough time is given to staff members to carry out research	11	14%	21	26%	49	60%	81
There is sufficient time allowed to complete my studies	17	17%	22	22%	60	60%	99
It took too long to register as a postgraduate student	51	55%	24	26%	18	19%	93
It is not easy to fit in research as a lecturer	9	15%	21	36%	29	49%	59

Students' perceptions of time and their studies

Students were satisfied with the time allowed to complete their studies. They were dissatisfied with the time it takes to get a research proposal approved. They seemed satisfied with the registration process, but not with communication about the registration procedures. These last two responses correlate with previous sections. Staff members should also be given more time to carry out research.

The main pattern gleaned from responses from the Focus Group had to do with the long time it takes to get Research Proposals approved. Together with other sections, this theme

has emerged as being one of the biggest problems with postgraduate study at the former TN:

- It took 6 months to register my proposal.
- It takes a while to get your proposal through
- You have to wait until your proposal is accepted before you get funds – waste of time. Even when funds come through it takes time to get things moving.
- Been waiting two months to get document corrected by supervisor.
- A staff member is actually disadvantaged in terms of time allocated by a supervisor, i.e. students have first claim on their time.
- Lack of time means no in depth supervision.
- It takes an incredible amount of time to supervise and critique research.
- It took virtually a year to get my proposal through.
- Time is a big problem – no time is allocated (to lecturers).
- You have to fit in your research.
- It took 6 months to get my proposal ready before submitting it to the department, after submission to the department, 18 months.
- Support from the Technikon has been very poor in terms of time.
- I am a lecturer and they won't give study leave.
- You should be able to get going and then register. There is a big wait.

A similar frustration regarding the time it takes to get a research proposal accepted is revealed in the open-ended comments:

Part-time, male, English, white, Master's student, between 34 and 39, a member of staff from the Faculty of Commerce:

“Lecturing full-time and now working full-time does not allow for research.”

Part-time, female, English, Indian, Master's student, aged between 22 and 27, from the Faculty of Commerce:

“Thus far, it has been frustrating. I submitted a Research Proposal in May 2001 and only received feedback in early August 2001. In 2002, I was required to resubmit the proposal which I did in March 2002 and I have not heard from the faculty office since. It is now June 2002.”

Full-time, Male, English, white, Master's student, aged between 22 and 27, from the Faculty of Health:

“I feel more progress could be made if the group (Ethics Committee) met more frequently, if students are allowed to sit in they would benefit more and progress would be speeded up.”

Full-time, male, Siswati/English, African, Master's student, aged between 28 and 33, and a

member of staff:

“My courage, perseverance, patience and focus have helped me to carry on despite the odds. It is my wish and prayer that what I have gone through should not happen to anyone again. In a nutshell – As far as postgraduate research is concerned there is still a great deal of improvement that the Faculty of Health needs to go through, the sooner the better. We hope for the best. I submitted my dissertation for examination in February 2002, and I was told that I would get feedback within 6 weeks. Believe it or not I am still waiting up to this day – several months down the line.”

Full-time, female, white, English Master's student, aged between 22 and 27, from the Faculty of Health:

“My proposal took three months to pass - these were changes in the G186 format – which I only heard about via word of mouth, resulting in a further delay. Research students should be contacted by the faculty/department continually to ensure procedures are correct.

I had problems with the research statistician as he lacked enthusiasm, and did not give enough guidance on SPSS. He also did not have enough time available, therefore I had to wait weeks for each appointment. I paid someone else to help me.”

Full-time, female, English, white, Master's student, aged 22–27, from the Faculty of Health:

“It has taken me six months, and still counting, to get the G186 approved. The process is extremely slow. Research is the final stage of my degree in Homoeopathy. I feel that research could go a lot faster if the department and faculty were more interested in it. While I am waiting for approval of my G186, I am losing out on income I could be earning.”

Full-time, female, English, white, Master's student, aged between 22 and 27, from the Faculty of Health:

“Outrageous!! is the first word that comes to mind. I could not have anticipated a worse experience. My G186 has taken over 6 months and still waiting for it to be approved. The committees have no consideration for our time or our lives. I am qualified however without this last step (thesis) I cannot practice. I am losing time and money, and none of the people responsible for approving my research even

give a damn! I am also losing touch with the academics of my course – after 5 long years of study this is not what one expects. I am very disappointed with the way postgraduates are treated – something has to be done about it!!”

Full-time, female, English, white, Master’s student, aged 22–27, from the Faculty of Health:

“It is taking much longer than I imagined to get research approved takes so long (although it has got better in last month).”

Full-time, female, English, white, Master’s student from the Faculty of Health:

“This research has been the bane of my life. It is not like we even had an option whether or not we wanted to do the thesis, we do not get our qualification if we do not finish the thesis. It has taken so much of my time where I have lost so much valuable knowledge. It has frustrated the living daylights out of me. For goodness sake we are homoeopaths, we do not want to do stats for the rest of our lives. We do not want to work with the SPSS systems for the rest of our lives. We want to get on with what we planned to study in the first place. So much valuable time has been lost along the way due to no guidance and just having to find everything out for your self.”

Male, English, white, doctoral student, 46 years or over, and a member of staff from the Faculty of Engineering and Science:

“At the moment I have no time to devote to research because of my heavy lecturing load (25 lecture periods per week).”

Full-time, female, white, Master’s student, aged 22 to 27, from the Faculty of Health:

“It is a complete waste of time. Research does nothing, but frustrate the student and should be replaced with practical experience or community service. It should be optional.”

Full-time, Indian, English, Master’s student, aged 22 to 27, from the Faculty of Health:

“As a student who is in process of doing my research, I find that the research and ethics committee takes a very long time to give us a feedback about our proposals. At the moment I am on the waiting list. I also am very disappointed that my department does not take a keen interest in the postgraduate students. We

are left to do things for our selves.”

Full-time, female, English, white, Master’s student, aged 22 to 27, from the Faculty of Health:

“It took me 6 months to get my topic passed, then 1 1/2 years to get my G186 passed. This is ridiculous.”

Full-time, male, English, white, Master’s student, aged 22–27, from the Faculty of Arts:

“Self-motivation has been a problem. I feel too much time is allowed for the course, so one becomes complacent.”

Part-time, male, Zulu, African, Master’s student, aged between 40 and 45, from the Faculty of Arts:

“The coursework took most of my research time as a result only 2 or 3 who finished in two years. Classes need to be reduced on the 2nd year so that students, especially part-timers to have enough time to work on a dissertation. Thanks for this questionnaire.”

Full-time, female, Indian, Master’s student aged, between 22 and 27, from the Faculty of Health:

“It took too long for the research proposal to be accepted. This was followed by another long wait to get the budget approved. Students would not have to spend such not periods at tech if these procedures were to be more streamlined.”

Conclusions:

- Students were vociferous in their frustration about the length of time it takes to get a research proposal accepted, especially in the Faculty of Health.
- The Ethics Committee needs to speed up their evaluation process.

4.3.7 Students’ experiences with their departments and faculties

The students’ responses to questions on their experiences with departments and faculties at TN are presented in 11 questions in descending order in Table 4.8 overleaf:

Table 4.8 Students' experiences with their departments and faculties

	Strongly Disagree/ Disagree		Neither Agree nor Disagree		Agree/ Strongly Agree		Total Count
	Count	%	Count	%	Count	%	
I understand the functions of the Faculty Office	31	32%	24	24%	43	44%	98
My department is fully informed on TN research protocol	27	29%	26	28%	41	44%	94
I am highly satisfied with the services offered by the Faculty Office	30	31%	29	30%	37	39%	96
Research administration is well organised in my department	41	43%	18	19%	38	39%	97
I am happy with the way in which my progress is monitored in the department	48	48%	18	18%	33	33%	99
Research administration is well organised in my Faculty	43	45%	26	27%	26	27%	95
The research ambience in the department is stimulating	62	62%	13	13%	25	25%	100
The Faculty Research Committee has sufficient expertise in my research area	49	51%	27	28%	20	21%	96
The dept. organizes sufficient seminars for postgraduate students	62	65%	15	16%	18	19%	95
The dept. facilitates social contact with other postgraduate students	61	62%	18	18%	19	19%	98

For the sake of clarity, the above statements and their responses are divided into departments and faculties:

Students' experiences with their departments

Over 60% of students were negative about the following first three statements on their departments. They were also negative about the next two, but to a lesser degree. Responses to the last question could suggest that although students were negative about other areas of service, at least the department is reasonably well versed in research protocol.

- The dept. organizes sufficient seminars for postgraduate students
- The dept. facilitates social contact with other postgraduate students
- The research ambience in the department is stimulating
- I am happy with the way in which my progress is monitored in the department
- Research administration is well organised in my department
- My department is fully informed on TN research protocol

Students' experiences with their departments

The Focus Group participants were negative about support from their departments, except for one:

- The Department lost my proposal. I had to follow up with the Department after 6 weeks of hearing nothing, and then I had to redo and resubmit my proposal
- They were inefficient. The delay was in trying to get my proposal through.
- My department is supportive but not the faculty, in terms of time, funding and information.
- The departments don't have a clue about the G186.

The open-ended responses were mainly negative. However, some students mentioned that a research administrator had been appointed in the Faculty of Health, which has improved matters somewhat:

Full-time, English, Indian, Master's student, aged between 22 and 27, from the Faculty of Health:

“My Dept. is not competent to have a postgrad course.”

Full-time, female, English, Indian, Master's student, aged between 22 and 27, from the Faculty of Health:

“Lots of times, when trying to contact the research administrator in our dept. we were told he was away, and on eventually speaking to him, was informed no messages were conveyed to him. I find the whole research system very unprofessional and unacceptable. Too much time wasted on trivialities. (The research administrator is very helpful once you do manage to get hold of him!)”

Full-time, female, English, white, Master's student, aged 22 – 27, from the Faculty of Health:

“All questions pertaining to research admin in the dept. and faculty are difficult to

answer, as when I first started research it was shocking and students were left in the dark. Now they have appointed a research administrator, and this has improved the process drastically. As for my supervisor, he was great!”

Part-time, female, Urdu, Indian, Mater’s student, 46 or over, from the Faculty of Arts:

“Accept these as long as you will not sue me!! There is friction between lecturers. There is animosity between lecturers. This is evident during lectures. Lecturers know that in the education dept. educators leave school, sometimes after staff meeting etc; lecturers have been unreasonable in say and sending us memo’s ‘If you are 10 min late you will be marked absent. Sexual innuendos are passed by a female lecturer to male students. I was very uncomfortable in many lectures.”

Part-time, female, English and Tamil, Indian, Master’s student aged between 34 and 39, from the Faculty of Arts:

“My experience during registration was extremely memorable. The enrolling and interviewing officer (Mrs) was extremely pleasant, informative and motivating, so much so that at first the coursework, the time of lectures, etc, did not fit in with my lifestyle. But thanks to Mrs I am where I am. My supervisor, on the other hand, Mrsis truly a remarkable woman. I have the utmost of regard and respect for her. She is a highly learned academic who has given me such an in depth insight into my field of research – I often look forward to my interviews and meetings with her. Our conversation does not only focus on my research, but also about global issues and current happenings. She has such rare qualities that I want to continue learning from her even after my research has been completed. She has such a wealth of knowledge and experience in the education world to offer to students. It would indeed be a sad day when she has to leave the institution. It would be a great loss to the institution, to both under and post graduate students and to the world of Education should such a great academic had to leave. It is my most fervent wish to see Mrs..... remain so that she could continue to enhance, empower and educate people like me that thirst for knowledge.”

Part-time, female, English, white, Master’s student, aged between 22 and 27, from the

Faculty of Arts:

“However, my department does not provide enough support regarding my practical work. There is a general feeling of animosity from the staff members towards me. There seems to be very little interest from the lecturers regarding my practical work.”

Part-time, male, English, Indian, Master’s student, aged between 22 to 27, from the Faculty of Health:

“Dept. needs to improve research efficiency and supervisory efficiency urgently.”

Conclusions:

- Departments should organise more seminars and provide more social contact with other postgraduate students.
- The research ambience in departments should improve.
- Research administration in departments should improve, especially with regard to proposals processing.
- A postgraduate centre would alleviate some of these problems.

Students’ experiences with their faculties

Over 50% of the students were negative about the expertise of the Faculty Research Committee, and 45% disagreed that research is well organized in the faculty. The rest of the questions produced divided responses, revealing that some students do have problems in those areas:

- The Faculty Research Committee has sufficient expertise in my research area (51% D)
- Research administration is well organised in my Faculty (45% D)
- I understand the functions of the Faculty Office (44% A, 32% D, 24% unsure)
- I am highly satisfied with the services offered by the Faculty Office (31% D, 39% A, 30% unsure)

Negative responses from the Focus Group:

- The review panel that looked at my research proposal needs to be consistent. The review panel changes and each time they have a different point of view about my proposal.
- No input from the Faculty.
- When the institution adopted a de-centralised system to the faculties, there is only one person in the faculty who more or less knows what's going on, but no one in the department knows what's going on. There is a huge gap between the department, faculty and central research committee. The faculty office is not up to scratch.

The selection of open-ended comments from students in the Faculty of Health does not commend the faculty:

Part-time, male, Zulu, English, African, Master's student, aged between 28 and 33, from the Faculty of Health:

"I will never forget the bad/terrible experience I had with the Faculty Office. Had I been not a staff member and interested to promote research in my department, I would have looked for another institution. I just pray what I went through does not get through to other students – they must not experience what I experienced. I felt that there was a hidden agenda against me, even up to today – I don't know who I had sinned against."

Full-time, female, English, white, aged between 22 and 27, Master's student from the Faculty of Health:

"I also feel that the committee that approves the G186 has little understanding of Homoeopathy. This as well as certain ethics criteria hinder the type of 'homoeopathic' research we should be doing."

Full-time, female, Zulu, African, aged between 22 and 27, from the Faculty of Health:

"One of the major obstacles is that the Research Co-ordinator is hard to reach, and does not keep us informed as to the whereabouts of the research proposal etc."

Conclusions:

- Both faculties and departments could improve students' research experience by providing more support in terms of efficiency, expertise, communication, information and administration.
- The students' responses thus far seem to indicate that there is no cohesion with respect to structures and processes for postgraduate students in departments and faculties, which highlights the importance of having a postgraduate centre or an orientation programme.

4.3.8 Students' perceptions of their research, research methodology, statistics and related issues

The students' responses to seven questions on their research, experiences with Research Methodology, Statistics and related issues are presented in descending order in Table 4.9 below.

Table 4.9 Students' perceptions of their research, research methodology, statistics and related issues

	Strongly Disagree/ Disagree		Neither Agree nor Disagree		Agree/ Strongly Agree		Total
	Count	%	Count	%	Count	%	
I should be allowed to start my research work before my research proposal is accepted	26	26%	18	18%	55	56%	99
I was able to develop my skills in speaking about and explaining my work	35	36%	22	23%	40	41%	97
I had a problem coping with SPSS	16	23%	25	36%	29	41%	70
I was encouraged to publish my work	22	25%	32	36%	35	39%	89
I was happy with my postgraduate experience until the research began	37	42%	18	20%	34	38%	89
Research methodology as a subject is adequately covered	55	58%	12	13%	28	29%	95
The statistician understands my subject	29	40%	29	39%	16	22%	74

Responses to research, research methodology, statistics and related issues

Students' general comments about their perceptions of research, research methodology and related issues reveal problems with the subject Research Methodology. Students did not feel that the offering was adequate. Most would have liked to start their research work

before their research proposals were accepted, probably because of the long delays in waiting. It could be that students did not want to commit themselves to saying they were happy before the research began, because they were not happy at the outset. They were not overwhelmingly positive about developing their skills when speaking about their work, and they seem to have had doubts about the statistician and coping with SPSS. Students did not seem to be greatly encouraged to publish their work.

One Focus Group student also felt that the subject “Research Methodology” was not adequately covered:

- As far as research methodology, I just manage on my own, I find people who will help me otherwise I rely on myself.

There was not one positive comment from students regarding Research Methodology:

Part time, female, English, white, Master' student, aged between 34 and 39, and a staff member from the Faculty of Commerce:

“When I completed the subject Research Methodology, it was a special course offered only to the Information Technology students. I strongly recommend that in order for Research methodology to be useful to a Master’s student, it must be presented with specific reference to a discipline.”

Full-time, male, white, English Master’s student, aged 22 – 27, from the Faculty of Health:

“No guidance as to research methodology, how to complete G186 etc. was given at all. (Subject: Research Methods was a joke). Statistician was rude, unhelpful, and did not try to familiarise himself with our particular study. Complete lack of qualified personnel who are familiar with recent advances in Research Methodology. In essence, the only constructive help I received during the whole process was from educated people outside of the Technikon e.g. professors from varsity etc., who were both friendly and giving of their time (ironic). Dr Research Admin. at is definitely helping the process though.”

Part-time, male, African, Zulu, Master’s student, aged 28–33, from the Faculty of Health:

“The institution only has one statistician for research which does not give him

sufficient time to allocate into seeing research students.”

Full-time, male, white, English, Master's student, aged 22–27, from the Faculty of Health:

“There should be more than one statistician available to consult as Mr seems to be very busy.”

Full-time, male, white, English Master's student, aged between 22 and 27, from the Faculty of Health:

“Research is an obligation for many students. Many don't enjoy research. All efforts to make research more enjoyable will result in stronger and more stimulating research. Candidates obliged to do research will not produce good research.”

Full-time, Indian, English, Master's student, aged 22–27, from the Faculty of Health:

“I feel that our research is not good enough to hold up to international standards due to lack of knowledge by supervisors and lecturers.”

Full-time, female, Indian, English, Master's student, aged 22–27, from the Faculty of Health:

“The statistician at the Technikon did not entirely understand the stats for my methodology. It was difficult to gain information regarding the stats I had to apply to my research until I attended the university of Michigan for a semester. I feel more students in my field should be given this opportunity to learn more from other recognised institutions (nationally and internationally) that specialise in environmental monitoring.”

Full-time, female, white, English Master's student, aged 22–27, from the Faculty of Health:

“The statistician has no understanding of Homoeopathy and shows little interest in our work. Research methodology was a waste of time for my class. It never covered the research that was expected of us at all. We never even knew what a G186 was before this year. This subject was therefore a waste of time and money in our 4th year of study.”

Full-time, female, English, white, Master's student, aged 22–27, from the Faculty of Health:

“Research Methodology in 4th year (2000) was an absolute waste of time

and money – we weren't even told that a 'G186' existed. I felt the course was far too general and didn't cater towards the research protocol at DIT."

Full-time, female, English, white Master's student, aged 22–27, from the Faculty of Health:

"This program is most definitely not user friendly (SPSS). Many thanks for doing this kind of research. We are so often too scared to ask what we have to do and where to go. I wish you the best of luck for the rest of your research."

Part-time, female, English, white, Master's student, aged 22–27, from the Faculty of Health:

"The Stats portion of Research definitely is the biggest problem from our Department. I find the statistician unhelpful, incompetent and virtually impossible to get a appointment with."

Part-time, male, Indian, English, Master's student, aged 40–45, from the Faculty of Arts:

"Interesting but frustrating at times, especially whenwasted our entire first year with Research Methodology as he was always absent/attending meetings/or just not concerned/prepared. Mrs is a 'Star' — she took up from where he left and we are making good progress now – She's very concerned about us. She is an asset to TN."

Part-time, female, Indian, English Master's student, aged between 40–45, from the Faculty of Arts:

"Lectures on Research Methodology were not adequately covered because the lecturer used valuable lecture time to attend staff union matters."

Part-time, female, white, English, Master's student, from the Faculty of Arts:

"My main difficulty was in the last stage of writing up my research. The guidelines I had were not sufficient and out of date (such as in referencing techniques). An orientation programme on guidelines would have been useful). I took too long in writing up as a result, and found that some advice/information came as I went along, for example stressing that some things are learnt as one goes along, though what would appear obvious to the supervisor is not always obvious to the candidate. However, I valued the skills acquired during this time and would suggest that postgraduate

students who have completed in a specific area are the best people to run an orientation programme. For new students working in a similar field. I think that it was not easy working at a distance from NT, and when I could come to the Tech, most people who could help were away, I gave up after the 2nd visit.”

Full-time, female, white, English, Master' student, aged 22–27, from the Faculty of Health:
 “My training was highly inadequate for producing good research.”

Conclusions:

- Students were extremely negative about the module ‘Research Methodology’, especially in the Faculty of Health.
- There is resistance to doing research as a compulsory component of the course.
- The statistician is unhelpful.
- No guidance is given.
- Research Methodology should be discipline specific.
- Only one statistician available at the former TN.
- Students have difficulties with statistics (and SPSS) and inadequate training.
- The RM course is too general.

4.3.9 Students’ perceptions of library services

The students’ responses to four questions on their library experiences are set out in descending order in Table 4.10.

Table 4.10 Students’ perceptions of library services

	Strongly Disagree/ Disagree		Neither Agree nor Disagree		Agree/ Strongly Agree		Total Count
	Count	%	Count	%	Count	%	
Postgraduate students should be able to borrow library books for a longer time	2	2%	9	9%	89	89%	100
I have good access to the library services when needed	9	9%	13	13%	79	78%	101
The library treats you like an undergraduate student	26	26%	28	28%	45	45%	99
There is no guidance from the library for the literature search	49	52%	23	24%	23	24%	95

Students' perceptions of their library experiences

Students generally had no problem with the library services. However, they would like to borrow books for a longer time. The library might benefit from the setting aside of a special area for postgraduate students' use in future.

A similar trend to the structured questions was revealed by the Focus Group:

- Postgraduate students should be able to borrow books from the library for longer periods than undergraduates. Library services are good. Library should control software.
- Library treats you like an undergraduate student. You can only borrow books for one week and renew them every week, but they will only renew them three times.

This student had a specific problem with library books:

Part-time, female, white, English, Master's student, aged 22–27, from the Faculty of Health:

“My second problem area is the library – books have been stolen and not replaced or are not returned by borrowers even if reserved.”

Conclusions:

- The library services are generally good.
- Postgraduate students would like to borrow books for a longer period.
- A dedicated postgraduate area in the library would make postgraduates feel less like undergraduates.

4.3.10 Students' perceptions of available expertise

Students' responses to eight questions regarding the available expertise are presented in descending order in Table 4.11 overleaf.

Table 4.11 Students' perceptions of available expertise

	Strongly Disagree/ Disagree		Neither Agree nor Disagree		Agree/ Strongly Agree		Total
	Count	%	Count	%	Count	%	Count
Senior members of staff show an interest in my research	23	23%	27	28%	47	48%	97
There is sufficient expertise available in my field	47	46%	13	13%	42	41%	102
I was given good guidance in the selection and refinement of my topic	41	41%	19	19%	40	40%	100
I had sufficient guidance in my proposal writing skills	49	48%	13	13%	40	39%	102
There is sufficient expertise available in my area of research	50	52%	14	14%	33	34%	97
There is sufficient qualified staff to deal with postgraduate students	66	65%	8	8%	28	27%	102
There are enough senior people here in my field to attract postgraduate students	47	49%	24	25%	24	25%	95
There is sufficient expertise on qualitative research methods at TN	46	48%	25	26%	25	26%	96

Students' perceptions of available expertise

Students were quite definite about the fact that there was insufficient staff to deal with postgraduate students. However, they were less definite about whether there was sufficient expertise available in their field, as evidenced in the responses to similar questions, i.e., 52% disagreed that there was sufficient expertise available in their area of research, and 46% disagreed that there was sufficient expertise available in their field, while 41% agreed that there was. Students were less positive about senior staff showing an interest in their work and undecided about whether there was sufficient guidance in proposal writing skills.

The Focus Group students were more resolute in their conclusion about the lack of available expertise. They would also have liked more guidance in getting a research proposal accepted:

- There are insufficient champions in the broad field of engineering at TN.
- Technikon will have difficulty recruiting senior students due to insufficient expertise in Mechanical Engineering.
- We need a team to promote and facilitate research, attract funds, find expertise.
- There is no guidance or deadlines to get a research proposal through
- Problem is a lack of qualified staff to cope with Master's and Doctoral students.
- There is no expert in my research field in the department. The institution should take that into consideration. If there is no expertise in a particular field, they should not accept a Master's student in that field.

The open-ended comments from students on available expertise depict a similar trend:

Part-time, male, Indian, English, doctoral student, aged 34–39, from the Faculty of Engineering and Science:

“There is a lack of staff in research centres. With time, the qualifications of staff in research centres should be upgraded. Increasing postgraduate student numbers in centres is ultimately dependent on staff.”

Full-time, male, African, Zulu, 34–39, Master's student, from the Faculty of Engineering and Science and a staff member:

“Most of Blacks (Africans) they felt there were just a statistic. Indians thought they own the Centre (Centre for Water and Wastewater Research). Mr was useless Director. His is reason why most of Black students felt they were isolated. I have strong desire to complete my postgraduate studies I was very stressed. I believe that is a reason why could not finished my research (Design and Development of a Bioreactor for heavy metal remediation).”

Full-time, male, white, English Master's student from the Faculty of Health, aged 22 – 27:

“The ethics committee are not consistent with their remarks and corrections; I feel there are too many people dealing with too minor a subject.”

Conclusions:

- There is a consistent trend pointing to a lack of available expertise.

Overall Concluding Comments:

- It is obvious from the results of the study that the postgraduate students' research

experiences at the former Technikon Natal, especially the Health students, have been mostly negative.

- With respect to the supervisory process, the overall trend indicates that students do not have enough access to and time with their supervisors, which causes unacceptable delays.
- As far as the Technikon and communication is concerned, students definitely require an orientation programme that informs them about what is going on, where to find things, who is in charge, and what is available. A postgraduate website would alleviate many of these problems.
- Students would like modern computer facilities for postgraduates, hence the support for a dedicated computer room and postgraduate centre.
- The complaint that it takes far too long to get a Research Proposal accepted has been consistently focussed on by students throughout this study.
- Students would like guidelines on how to draw up a research budget, be given larger research budgets, and have a free writing consultancy.
- Departments and faculties should organise more seminars for students, provide more social contact with other postgraduate students, and improve research administration.
- The subject Research Methodology needs to be overhauled. More training on SPSS is required. John Moores University in the U.K. extended their Research Methods Module after conducting their first postgraduate research survey (<http://cwis.livjm.ac.uk>)
- The library services are good except that students would benefit from being able to borrow books for a longer period and have a dedicated area set aside for them.
- The issue of a lack of available expertise needs to be addressed.

- The Ethics Committee should speed up their evaluation procedures.
- Combined with the impact of the merger, the effects of which are not yet understood, the new institution will need to give serious consideration to the needs of the postgraduate population, especially in the Faculty of Health.

CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

5.1 Introduction

The overall aim of this study was to discover whether postgraduate students at the former Technikon Natal were satisfied with their research experiences during their postgraduate years of study. To provide background information to the study – some of the key trends and shifts in South African higher education from about 1994 to the present were discussed, including aspects of the White Paper, the work of the Council of Higher Education and the vision of the National Plan for Higher Education — to show how these changes had an impact on universities and technikons, and subsequently students. The early history of technikons and the nature of technikon research in South Africa is one factor that determined the type of higher qualification a technikon student would receive. Another factor is the support and intervention of the NRF with its various programmes aimed at capacity building. International studies reveal that the kinds of problems students face worldwide are similar to our own. International studies also show that universities are taking charge of these problems through institutional self-assessment and other mechanisms to improve quality assurance. These changes had an impact on the South African higher education setting. For example, more distributed sites of knowledge production and emerging entrepreneurial universities have influenced the type of programmes offered, producing diversity and transdisciplinarity.

Recent South African studies highlighted various aspects of postgraduate study, especially problems encountered with supervision. Today, universities and technikons have to compete for students and postgraduate students — the quality of supervision and low postgraduate student numbers remain a cause for concern, both in South Africa and internationally. Several universities are taking cognisance of these trends and are addressing these problems, in order to support and maintain a strong postgraduate student base. The merger between the ML Sultan and Natal technikons, and the voluntary exit packages offered to staff have impacted negatively on student and staff morale – the outcome of which is as yet largely unknown.

Although technikon students at the former Technikon Natal have similar problems to those encountered by university students worldwide, the technikon experience is still unique because of its historical background and present procedures. It is probably for these

reasons that technikon staff and students require additional support for the transition into research to be successful. While the NRF and similar agencies with their various technikon-funding programmes are undeniably supportive, the institution itself needs to take ownership of students' concerns. The recent restructuring of the processes and structures of research at the Durban Institute of Technology has been met with some success during the year since the merger, but much is still to be done to encourage staff and students to undertake research.

This chapter discusses the main findings of the study. Recommendations are offered for consideration by the institution, and suggestions for further research are given.

5.2 Demographics

In this study, the majority of postgraduate students were Master's students, between 22 and 27 years old, are white, and English-speaking. The current institutional undergraduate student profile, which is mainly black, has not yet transformed the postgraduate student population. It seems that the increased number of black students are from disadvantaged backgrounds, and are not pursuing postgraduate qualifications. A study done by Lessing & Schultze (2002) showed that postgraduate supervision in South Africa currently takes place in the context of university transformation and increasing numbers of disadvantaged students. The newly merged Durban Institute of Technology has yet to encounter a significant increase in black postgraduates. A reason could be because prospective postgraduate students from previously disadvantaged groups might feel that having English as a second language is not conducive to pursuing a postgraduate qualification. The institution seems to be addressing this problem by introducing foundation courses and academic literacy training to assist students at undergraduate level. Once they reach postgraduate level, however, this support seems to disappear. Beasley (1999) states that students for whom English is a second language face an added difficulty and should receive better induction and support. In Australia, the increased diversity of the student population brought challenges to academic staff that were pursuing their own higher degree studies (Webb & Sillitoe, 1998). Technikon academic staff in South Africa face similar challenges (Kapp, 2000).

Gender does not appear to be a significant factor in the overall satisfaction of students with their postgraduate experience. Although slightly more males than females are dissatisfied with their postgraduate experience, the difference is not statistically significant.

As far as age is concerned, slightly more than half of the postgraduate students in the sample embarked on a postgraduate career at the Technikon between the ages of 22–27. Of these, 21 were male and 33 female. Female dual roles (motherhood versus careers) do not seem to pose a problem for postgraduate female students in the 22–27 age group in the sample.

In terms of the distribution of students in Faculties, the largest proportion of postgraduate students in the sample (49%) is registered in the Faculty of Health. Of this number, 58% are dissatisfied with the quality of their research experience, 16% are satisfied, and 26% are neither satisfied nor dissatisfied. As mentioned in Chapter 2 (2.3.3 Technikon Natal, page 31), Homoeopathy and Chiropractic students are obliged to continue to M. Tech level in order to register as practitioners. The fact that the subject 'Research Methodology' is a compulsory component of the course could have been a source of frustration for these students. However, it is interesting to note that only 5 students in these departments commented on this issue, leading to the conclusion that their concerns are about their research experiences in general and not Research Methodology as a subject in particular. This point is well illustrated by the cross tabulation in Table 4.4 on page 99 "Overall, I am quite satisfied with the quality of my higher degree research experience.

Some of the reasons given for their dissatisfaction are the lack of experienced supervisors resulting in less time for available supervisors to spend with students, which in turn, leads to unacceptable delays. In addition, students expressed their dissatisfaction with the overall lack of funding, inadequate communication, lack of research methodology training, and a general lack of support from the institution. These findings are consistent with studies done by Hay & Helm (1993), Kapp (2000), Lessing & Schulze (2002), Mouton (2001), van der Westhuizen & de Wet (2002) and, Le Grange & Newmark (2002), who all identify the supervisor's skills as an important factor in the student's research experience.

Overall, the white students (61%) are the most dissatisfied with their research experiences but only 12% Africans and 26% Indians are dissatisfied. The reason for this could be that the former Technikon Natal was an 'historically white' institution. Students coming from previously disadvantaged institutions could have been satisfied with the better conditions at the former Technikon Natal, or it could be simply that the majority of students in the sample were white.

5.3 Supervision

As far as supervision is concerned, the students' main criticism – as expressed in their responses to the closed-ended questions in the questionnaire — is that the lack of supervisors' means that their time is limited. Otherwise, their responses to specific questions are fairly positive. In terms of the open-ended comments, responses reveal much more negative comments. Students pointed to the lack of expertise, lack of time, lack of sufficient supervisors, and poor guidance from their supervisors. A reason for the incongruity could be that the students were able to express themselves more freely when asked to comment openly. Studies show that the students' open-ended observations on supervision are similar to those documented in the literature, Mouton (2001), Styles and Radloff (2001). Hay & Helm (1993) specifically show that a supervisor's personal, professional and organizational skills are identified as important factors of the research experience.

5.4 Students' general perceptions of the quality of the research experience provided by the institution

The survey clearly showed that the students are unhappy about the fact that the institution does not consistently circulate general information about changes in procedure and structure. Good communication is fundamental to ensure that students are generally confident about what the institution expects of them, and would probably contribute to alleviating the feelings of isolation and lack of commitment that some students experience. The quality of the research experience can be seriously affected by poor communication about research-related policies. This could explain the overwhelming support for a postgraduate information kit, and an orientation programme. The Research Management plan implemented by the University of Western Australia (the objectives of the plan were discussed in Chapter 2) seems to have addressed the problem of irregular and/or scant communication (www.acs.uwa.edu.au/reg/stratplan.html). The University developed a questionnaire on student perceptions of research supervision (SPORS), which was distributed to all postgraduate research students, and supervisors, the results of which will indicate what type of follow-up action should be taken. Review processes constantly monitor processes for internally funded awards, fellowships, and grants. The University also developed and established a centralized electronic database of research output from which research productivity and quality may be measured. The main objectives with regard to communication in the management's research framework are to “foster international,

inter-university, inter-faculty and inter-departmental communication and collaboration in research" (page 4, Research Management Plan, UWA). In addition, the University's Research Administration Unit is tasked with the development and maintenance of major databases, including research grant applications and offers research publications, PhD and scholarships information, animal ethics applications, and a World Wide Web home page.

More than half of the students (57%) expressed satisfaction about the practicability of the courses in preparing students for the outside world. Students within the technikon sector are more sensitised to a wider variety of career and employment opportunities, and as a result are able to make informed decisions about their future employment (Technikon Natal Co-operative Education Unit Brochure, 2002).

A lack of resources such as a dedicated computer room, a postgraduate centre and a free writing consultancy are contributing factors to the students' dissatisfaction. Guthrie & Trembath (1998:127) found that students identified infrastructure issues, such as the provision of services and facilities, as being problematical during a pilot survey on the postgraduate experience at twenty-eight Australian universities.

Students also expressed a need for guidelines on how to draw up a research budget, and complain about the length of time it takes to gain access to funds once they are approved. They also feel that there are insufficient funds. Styles & Radloff (2001) believe that if students received more resources such as financial support, computers, and childcare, these would increase the likelihood of them finishing their studies successfully and in a minimum of time.

A large number of students expressed their dissatisfaction and disappointment about the length of time it takes to get a research proposal approved (74%). This aspect of the research experience has emerged as one of the most consistent problems that plague students. It is recorded that one student had to wait 18 months for a research proposal to be accepted. Delays were reported in all faculties, but the Faculty of Health students particularly seemed to have found this a major issue.

The perceptions of the students of a lack of support from departments and faculties, inadequate training for research methodology, and lack of sufficient qualified staff to deal

with postgraduate students, are indicators that the institute needs to pay more attention to alleviating the negative factors that affect the postgraduate population. In short, the Durban Institute of Technology needs a Research Management Plan.

Thirty per cent of students overall did not use the open comments section to comment on their research experiences. It would appear that these students either felt that the closed questions section had provided them with enough opportunity to state their views, or they did not hold strong opinions about their research experiences. Only 0.04% indicated that they could not comment as they had not yet begun the research. None of the part time students indicated that they had too little exposure to the research system at Technikon Natal to comment on their experiences.

5.5 Recommendations

Overall, my study has shown that postgraduate students have rather negative perceptions about the technikon in terms of supervision, communication, commitment, funds, departmental and faculty support, research methodology, expertise, and facilities. In the light of these findings, the following recommendations, arranged in categories, are offered for consideration:

SUPERVISION

- Both students and supervisors should be given specific guidelines as to what is expected of them, and what their responsibilities are. The technikon should also take steps to increase the number of supervisors so that they are able to spend more time with their students. A comment from a student in the Faculty of Health puts this recommendation in a nutshell:

“Supervisors not experienced enough and overworked and underpaid.”

- Students or their supervisors should be given the opportunity to attend departmental or faculty research committee meetings when their research proposals are considered, to provide additional background information if required.
- Workshops on postgraduate supervision should be arranged for supervisors at regular intervals.

FINANCIAL MATTERS

- More funds should be made available to postgraduate students (especially from financially disadvantaged groups) for their research budgets, and students should

be encouraged and assisted to apply for the many bursaries and scholarships available.

- Students should be given guidelines on how to draw up a research budget. The majority of students (91%, the highest score recorded) agreed.
- The lack of funding places severe restrictions on the progress of research, as this student illustrated:

“The frustration of my research arises when issues of budget are not easily obtainable and the process of obtaining more financial support with my research is difficult and tiresome. This is a huge hindrance in my progress especially when time is not on my side.”

RESEARCH PROPOSALS

- Structures should also be put in place to speed up the approval of research proposals. It is unacceptable that some students had to wait for six months for their research proposals to be accepted, and in one case, 18 months. Quality mechanisms to prevent such delays would enhance the research experience, and also prepare the institution for the HEQC audit on quality assurance mechanisms of HE institutions. Students were clearly frustrated about this aspect of their research experience, as this student wrote:

“Outrageous!! Is the first word that comes to mind. I could not have anticipated a worse experience. My G186 has taken over 6 months and still waiting for it to be approved.”

- The Ethics Committee should endeavour to give prompt feedback to prevent further delays in approving research proposals.

RESOURCES

- Departments and faculties should ensure that they provide adequate equipment, computers and software for postgraduate students.
- A dedicated postgraduate computer room, with modern computers, a free-writing consultancy and guidelines for drawing up research budgets should be provided as a matter of course. One student felt that there “are no computer and printing facilities available that are of a high enough standard to do research on, i.e. printing access and quality”. (English, white, Master’s student, Faculty of Health)
- The institution has an obligation to provide the resources to enable postgraduate students to embark on qualitative research. This expertise should take the form of

experienced supervisors and the availability of qualitative software packages. There should also be sufficient expertise on qualitative research available on Faculty Research Committees and on the central Research Committee.

- As the library services are considered to be good, the institution should build on this goodwill by providing more books for postgraduate students. It is unfortunate that there was no library budget for 2003.

RESEARCH METHODOLOGY

- Research Methodology as a subject requires revamping in all faculties, and should include training in SPSS and other research-related software programmes. In a study undertaken by Lessing and Schulze (2002), they found that Master's and Doctoral students wanted support with regard to statistical analyses and interpretation, and presentation of results.

COMMUNICATION

- Students wish to be kept informed about changes in processes and procedures so that they know what is going on, how things work, who is in charge, where they can find things, and what is available. An orientation kit, a postgraduate student policy document, dedicated website, and/or a postgraduate centre will go a long way to alleviate frustrations about communications. This student was explicit about her frustration:

“You have to do so much running around between the departments to find out what you have to do. No one tells you what is required. You are NEVER informed when things change.”

- The web page should include information on the responsibilities of the technikon, faculties, departments, supervisors and students.

EXTRA TUITION

- Undergraduate students from disadvantaged backgrounds should be given extra tuition and support to ensure that a larger percentage register for postgraduate study, and this support should continue during their postgraduate years of study. There is a call for increasing the percentage of black postgraduate students at the institution, which at present is skewed towards whites.

DEPARTMENTS AND FACULTIES

- Departments and faculties should arrange more seminars for students, provide more social contact with other postgraduate students and improve their overall research administration.
- The Faculty of Health in particular, with its large postgraduate population, should give special attention to the way in which it manages its postgraduate students, as students there reported the most problems, i.e., scarcity of adequately experienced supervisors, research methodology training, and insufficient funds.
- The institution should decide on an appropriate research model for the future, which should include streamlined administration of all postgraduate-related matters, be they at faculty/departmental level or centralized in a postgraduate centre.

STUDY LEAVE

- It is also recommended that the institution investigates the possibility of granting proper study leave for lecturers who are studying for higher qualifications. At present, study leave only seems to be possible if the National Research Foundation provides the funds for replacement lecturers, and even then, lecturers find it extremely difficult to arrange time off because of their high lecture loads, and departmental and institutional commitments.

CHILD CARE FACILITIES

- There should be adequate child-care provided for postgraduate students, in the light of the findings in this study that most postgraduate students are in the 22–27 age group. The crèche should be upgraded and revamped.

STUDENT SUPPORT SERVICE

- Institutionalise postgraduate support through a dedicated one-stop student support service.

GENERAL

- Students should be given comprehensive insurance cover.

The new Durban Institute of Technology undoubtedly faces the enormous challenge of consolidation following the merger process. Strengthening the academic core,

consolidating academic structures and programmes, and restructuring administrative processes can achieve this. The merger has heralded enormous changes, the full impact of which will still be felt in years to come. For postgraduate students, the impact of the merger process is as yet largely unknown.

The newly purchased Research Management Programme will provide the opportunity to implement some of the most urgently required recommendations for improvement. It is believed that many of the problems highlighted in this study (and subsequent recommendations) probably apply to many of the technikons in South Africa.

The foregoing recommendations are offered in the light of the most recent DIT (Durban Institute of Technology) 2003 postgraduate (Master's and doctoral) registration figures. Black postgraduate registrations have not increased significantly in the intervening two years, despite an increase in black undergraduate and B.Tech students since 2001. The 241 students counted as the population in this study reveal a slight decrease in the numbers of white postgraduate students, and a significant increase in the numbers of Indian students since 2001. It should be a major cause for concern to the Durban Institute of Technology that the total number of postgraduate students registered in 2003 (278) is so low in the newly merged institution, considering Technikon Natal alone had 286 on its database in 2001. It indicates that the former M L Sultan Technikon did not have a strong research ethos for attracting postgraduate students.

Table 5.1 Postgraduate numbers for 2001 (per Race Group)

POSTGRADUATES FOR 2001 PER RACE

WHITE	COLOUR	INDIAN	BLACK	TOTAL
143	2	56	40	241(286*)

Table 5.2 Postgraduate numbers for 2003 (per Race Group)

POSTGRADUATES FOR 2003 PER RACE

WHITE	COLOUR	INDIAN	BLACK	TOTAL
123	4	99	52	278

Source: Management Information, DIT October 2003

5.6 Opportunities for Further Research

In the light of global trends, low postgraduate numbers in the merged institution, and the loss of accreditation in certain doctoral programmes, especially in Engineering, the new institution could benefit from further research into the needs of postgraduate students.

Some areas of interest could be:

- New programme mixes, resource based teaching, and learning and distance learning. These are areas that provide many opportunities for research into postgraduate studies.
- Research into the impact of the merger on postgraduate students. This information could provide merging institutions with valuable input for interventions that could be put in place prior to a merger.
- Research into the needs of postgraduate students at other South African institutions. This could provide a valuable tool for comparative purposes and could provide a database for future studies.
- An intervention to improve the quality of the postgraduate experience — a Postgraduate Research Management Plan involving all academic departments that offer higher degree qualifications from Master's upwards.
- Research into supervision at technikons. This could provide answers to problems that seem peculiar to technikons because of their history.
- The establishment of a database of the institution's research capacity building requirements.

The recent merger and voluntary exit packages have heralded a new era in higher education in South Africa. These changes, combined with the transformation of higher education in South Africa, and changes in knowledge production sites and globalisation, offer many opportunities for research at both universities and technikons. In this regard, it is believed that many of the issues (and possibly also recommendations) highlighted in this study will probably apply to many other technikons in South Africa.

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APPENDIX A

INTERVIEWEE: MASTER'S STUDENT: TECHNIKON NATAL (REQUESTED ANONYMITY)
INTERVIEWER: G MCLEAN-ANDERSON

- Interviewer:** Thanks for agreeing to this interview, and thanks for agreeing to it being recorded. As you know, Technikon Natal was awarded Degree Status in 1993, and Master's and Doctoral students have been passing through the institution since then. I think its opportune now to find out from a Master's student what his/her subjective research experiences have been at Technikon Natal. I have a list here of a number of issues that you may or may not wish to comment on, but . . . (interviewee interjects, briefly glances at the list and does not refer to it again)
- Interviewee:** Is the information confidential?
- Interviewer:** Yes, if you prefer it to be.
- Interviewee:** Will I need to name my supervisors?
- Interviewer:** Not unless you want to.
- Interviewee:** I will rather refer to them as Supervisor A and Supervisor B.
- Interviewer:** Are you going to comment on your supervisors?
- Interviewee:** Of the two supervisors, one is required to be a Technikon staff member. The co-supervisor may not necessarily be a Technikon supervisor, and the co-supervisor also may be the main supervisor. In other words, the Technikon supervisor may be the co-supervisor, but there is a requirement that you must have a Technikon-based person. I am in a situation where my main supervisor, who is Technikon-based, is far less able to supervise my research than my co-supervisor, who is not Technikon-based. Would you like me to comment further on the supervision?
- Interviewer:** Yes please. I would like you to expand on what you mean by the Technikon supervisor being "less able to supervise your research" than your co-supervisor, who is not on the staff?
- Interviewee:** The co-supervisor who is external to the Technikon has a far better grasp of polytechnic research methodology. The Technikon research tradition, I think, is operated within very narrow parameters, and it's my perception that research methodology is under-developed as a subject at Technikon Natal. I think there should be some broadening of outlook and some reading, and some currency with the development in research worldwide, and I think that's lacking.
- Interviewer:** You have stated that the supervision you receive from your Technikon supervisor has very narrow parameters, and that the subject as a whole is under-developed and needs broadening and that your external co-supervisor has a better understanding of polytechnic research methodology?
- Interviewee:** In my particular case, my work is methodological in nature, and so the problem does surface. I had enormous difficulty having my research proposal passed by the Technikon Research Committee. At that stage there was no decentralisation to Faculty Research Committees, and what was seen by a research consultant outside the Technikon, who is my co-supervisor, as "a very tight, well reasoned and well supported proposal", was seen by the Technikon Research Committee as "flowery". I substantiated my methodology very comprehensively, in my proposal, because I was aware that the Research Committee did not understand qualitative criteria for validity, reliability, and what, in qualitative research, is called credibility and warrant ability. I submitted to the faculty-based new Research Committee a paper which quotes international research methodology writers on this subject. The paper was not disseminated.
- Interviewer:** So, you feel very strongly that the most important aspect of your research experience here has been a lack in the supervision, due to the fact that Technikon Natal has an under-developed perspective of it ... (**Interjection:** . . .of research methodology) and of research methodology in general, and that they need to develop it further and broaden their horizons, and that you were very unhappy with the fact that the Technikon Research Committee saw your methodology as "flowery"?

Interviewee: Yes. My proposal was checked by highly qualified people before I submitted, and those people have credentials which are completely, those credentials are recognised in a far wider ambit than Technikon Natal, so I felt that I was having to write a proposal according to the knowledge deficit of the Technikon Research Committee.

Interviewer: I see. To briefly summarise what you've said so far. You felt that your co-supervisor was ...

Interviewee Interjects

Interviewee: Far more professional, far more academically qualified, in research methodology. I have one further thing to add. I think that Technikon Natal's at the development of research in a very linear way, in terms of stages that are passed. The pro forma for the delivery of proposals is very "positivist" in - and this is another thing that their Research Committee and many researchers of high standing at Technikon don't understand - is the term "scientific", does not relate only to experimental research, and that the term "scientific" relates to the development of knowledge. As it happens, I have an article by a very eminent biologist and physicist in the(inaudible)....., which debates this point, which I was reading last night, which you may want to look at. His research is very ground breaking and in a very important and highly . .(inaudible) area. It explains what the term "scientific" means. The term "scientific" does not mean only experimental or positivistic research or quantitative research. So I think that the technikon pro forma - I forget what G-number it is - which asks you to lay out your proposal according to certain headings, is restrictive, and makes assumptions about the research, which cannot be made at a Proposal stage. I further think that a proposal is a proposal, and it does not say what must, or should be done. It suggests what might be done, and the researcher has to grapple with the proposal and with method, depart from it, and substantiate such a departure. From that point of view, the amount of knowledge of the project that you would need to have, in order to fill in that pro forma is greater, and you would have to do unnecessary work in order to fill that in, because - and I want to say this very vehemently - methodology is an outcome of research. There is no such thing as a reliable methodology. The researcher creates the methodology andinaudible..... the methodology on the basis of a research design. A research design is a very good thing to have in a proposal, but a methodology is not.

Continues: When I began my research, I decided to use computer aided qualitative analysis software. I did a survey of the software that was available and I made a proposal to the Centre for Research Development. At the time, the statistician who was employed there threw it out, absolutely, while it was a worldwide acknowledged programme. I subsequently brought in a trainer. There were a number of people interested in such training. The training was well supported, the trainer was paid, it was highly successful. I am now engaged in helping PhD candidates with the use of the latest version of this programme. So I introduced this software to Technikon Natal. It was not known by the Research Committee, or by the Centre for Research Development, but the need for it was there, and only through persistent andinaudible..... did I get it purchased, and the training given. I am now in a position to train in this area, and I am already doing that, through my own efforts.

Continues: I have no argument with quantitative research. Quantitative research has its place, but we often get into a position where questionnaires are desired which are absolutely riddled with assumptions, and they actually need to be preceded by a qualitative exploration, investigation, in order to supply what relevant questions, what the relevant questions are. It is not for a researcher at the beginning of the research to have to endeavour to decide what the contents of survey-type method questions should be. In addition, survey methods are very inappropriate where you do not have the manpower to actually do a valid sample in your actual survey. I also used a combination of quantitative and qualitative methods. I used quantitative methods to verify that my qualitative conclusions are sound. It's a checking device. I might also use a quantitative survey as a kick-off for a qualitative investigation. If

so many people believe that, why? So I believe that works hand-in-hand very well, and I am not opposed in any way to quantitative research, but I can assure you that in research communities, the use of survey instruments that are quantitative is very much under discussion and very much questioned.

Interviewer: Thank you very much for stating your feelings so clearly. In summary, your most important research experiences have been inadequate technikon-based supervision, a Technikon Research Committee that does not fully understand qualitative methodology, a research tradition that operates within very narrow parameters and a research proposal pro-forma that is too positivist in that it does not allow the researcher to create the methodology as part of the research process. This has been very informative. Thank you.

APPENDIX B

THE POSTGRADUATE EXPERIENCE

Consent Form – Focus Group

Purpose

The purpose of this study is to gather information from postgraduate students registered at Technikon Natal in 2001 in order to gain an understanding of their postgraduate experiences. The focus will be mainly on students' perceptions of supervision, social and academic contact with fellow students and staff, understanding of the examination process, departmental and institutional support, standard of work attained, a supportive environment and academic expectations. The information obtained will be used to construct a questionnaire and augment a review of the published literature on the postgraduate experience.

The study will be made available to Technikon Natal to evaluate the effectiveness of present procedures and practices in the faculties and implement modifications if necessary. This will have the benefit of improving the postgraduate experience for students.

Participation

Participants will be required to attend one focus group, the duration of which will be approximately one hour. All students participating in the focus group can withdraw consent and discontinue participation at any time. Please notify me if you wish to withdraw. You will not be identified by name in any material from the meeting.

Process

The meeting will be taped and comments made may be used in the final study. You are requested to stay for the entire meeting. You are also asked to respect the confidentiality of the other participants.

Any queries about the study can be directed to me at gloriana@ntech.ac.za.

I have read and understood the above information. I am registered at Technikon Natal for a postgraduate qualification. I agree to participate in this study on the understanding that I can withdraw at any time. I understand that data collected for this study may be published. I also understand that my name will not be used in any such publication.

Name

Signature

Date

APPENDIX C

Focus Group Summary

Focus Group Participant No. 1 Doctoral student, 3rd year p/t (engineering)

- Mature student
- The way Technikon handles mature students is poor
- If had a choice, I wouldn't remain here
- System not geared towards postgraduate studies
- You have to re-enrol every year, that is an irritation
- System not geared towards students' needs
- It took 6 months to register my proposal
- I was bored for 6 months until I joined another department and things improved
- I have a good relationship with my supervisor, although informal
- Informality suits me but its not good in general
- Self funded
- There are insufficient champions in the broad field of engineering at Technikon Natal
- I might as well not exist – I receive no correspondence or information
- There was no information available on registration (chaos)
- It was difficult to register (took 6 months, until Prof Bajic in another Dept. assisted me)
- Insufficient software, no sharing of resources (you have to ask for favours)
- Library should control software
- Research Toolbox excellent programme, will assist postgraduate students
- Postgraduate students should be treated like senior students, not like undergraduates
- There should be no work without your research proposal being accepted
- Technikon will have difficulty recruiting senior students due to insufficient expertise in Mechanical Engineering
- Postgraduate students should be able to borrow books from the library for longer periods than undergraduates
- I came to Technikon Natal only because I was a past student
- Technikon should advertise to promote postgraduate students
- We need a team to promote and facilitate research, attract funds, find expertise.
- Library services are good

Focus group participant No. 2 Master's student, 1st year (engineering)

- Doing research through a Research Centre
- Takes a while to get your proposal through
- Problem with equipment – old computer to start with
- You have to wait until your proposal is accepted before you get funds – waste of time
- Even when funds come through, it takes time to get things moving
- I've really enjoyed myself, learnt a lot
- My supervisor is very supportive
- Gained a lot of experience in other fields
- Did consulting with industry
- Library treats you like an undergraduate student
- You can only borrow books for one week and renew them every week, but they will only renew them three times
- Great experience
- Good exposure to knowledge

Focus Group Participant No. 3 Master's student, staff member, 3rd year p/t

- Focus is on undergraduate work
- Not enough supervisors for postgraduate work

- The institution needs to look at these issues when they start accepting postgraduate students
- Lack of sufficient supervisors means that their time is limited
- Been waiting two months to get document corrected by supervisor
- Relationship with supervisor is good on a personal level possibly because we work together and an effort is made
- A staff member is actually disadvantaged in terms of time allocated by a supervisor, i.e. students have first claim on their time
- Lack of time means no in depth supervision
- Difficult to get proposals through under a year in this department
- No input from the faculty
- It took virtually a year to get my proposal through
- There were a lot of ethical issues to address in my proposal
- Computers are fairly old in the faculty computer laboratory
- There is no guidance or deadlines to get a research proposal through
- Some people start collecting data without first having their proposals accepted
- A proper contract with a supervisor would be advantageous
- Problem is lack of qualified staff to cope with Master's and Doctoral students
- It takes an incredible amount of time to supervise and critique research
- I started a Master's because of a contractual obligation to the Technikon; otherwise I would never have started at my age.
- I promote the Master's programme outside
- Technikon does not inculcate an ethos of research into each department
- Each department has been told that they must do research
- Time is a big problem – no time is allocated
- You have to fit in your research
- Other academic institutions allocate one day a week for your research, Technikon Natal should do that.
- My supervisor is an expert in the field I've chosen but she is overseeing at least 10 Master's students plus her workload as HOD. My problem is not a lack of expertise, but a lack of time that she can devote to any particular person

Focus Group Participant No. 4 Master's student, staff member p/t 3rd year

- Member of a research unit on campus
- It took 6 months to get my proposal ready before submitting it to the department
- After submission to the department, 18 months
- The department lost my proposal
- I had to follow up with the department after 6 weeks of hearing nothing, and then I had to redo and resubmit my proposal
- I had to do a lot of stuff again and a lot of follow-up after
- I wrote a letter of complaint to my supervisor
- I've got copies of correspondence to these different people
- They were inefficient
- The delay in was trying to get my proposal through
- I feel that people are not fit to... (in the Faculty Office)
- No guidelines
- My relationship with my supervisor is more on an employer/employee basis, one of delegation. By that I mean that the research proposal is critiqued by the Research Manager in the research unit and then submitted to my supervisor.
- If it weren't for the fact that I joined the eSATI research cluster team, I would have given up my Master's studies. They help with supervision and hold workshops.

Focus Group Participant No. 5 1st year Master's student and staff member

- Support from Technikon has been very poor in terms of time
- I am a lecturer and they won't give study leave
- I was told that to become a lecturer you have to further yourself
- I did my B.tech and then Master's
- The only way I've managed was through a bursary from the NRF which I got myself
- In terms of equipment, I've had to fight for everything
- I am very persistent
- The review panel who looked at my research proposal needs to be consistent*
- The review panel changes and each time they have a different point of view about my proposal
- I have been very fortunate with my supervisors
- My department is supportive but not the faculty, in terms of time, funding and information
- As far as research methodology, I just manage on my own. I find people who will help me otherwise I rely on myself
- Focus of the institution is on undergraduate students, it is misplaced. Funding from the government for Master's students is high. The institution should focus on postgraduates. In that way they can build up more Master's students.
- I registered at Technikon Natal because it was free. I tried desperately to get into the U.K. but the cost was prohibitive.
- You should be able to get going on your work and then register
- There is a big wait
- There is no support for Master's students

Focus Group Participant No. 6 - 1st year Master's student f/t

- There should be an orientation programme for Master's students to familiarise them with what's going on, how things work and who is in charge, where they can find things and what is available
- It took me two weeks just to register at the registration office because nobody knows what's going on
- When the institution adopted a de-centralised system to the faculties, there is only one person in the faculty who more or less knows what's going on, but no one in the department knows what's going on.
- There is a huge gap between the department, faculty and central research committee.
- The faculty office is not up to scratch
- There is lack of communication, lack of commitment, lack of information
- I would like to see the process centralised again so you can have a dedicated person to handle postgraduate students
- You've got no-one to turn to when you are a postgraduate student
- The institution looks after undergraduate students
- No-one knows who you are
- You must have people who know the process, people who can tell you if there is a deadline
- My budget has not been finalised yet (November)
- I have to finish my Master's in one year (this year)
- Nobody knows the guidelines to enable you to draw up a budget. I went to the department, faculty and finally the research office in order to find out what travel costs I could claim
- That is why you need a dedicated person to deal with postgraduates
- It was difficult to get hold of a G186 (research proposal form)
- The departments don't have a clue about the G186. **
- There is no expert in my research field in the department. The institution should take that into consideration. If there is no expertise in a particular field, they should not accept Master's students in that field.
- My co-supervisor is actually my administrative supervisor and fortunately knows the system quite well but the supervisor is in the dark sometimes.
- There is not a single system here with a focus on postgraduates

- I registered at Technikon Natal because I didn't have a choice, it was the only feasible solution in my field
- We need facilities

*Each Faculty now has its own Faculty Research Committee, so this problem no longer exists.

** The G186 is the Research proposal form. Each Faculty has its own dedicated form, except for the first five pages, which are shared.

Faculty of Research Development

Department of Research Development

P.O. Box 1015

Port Elizabeth

6001

The aim of the Port Elizabeth Research Committee is to provide a forum for the exchange of ideas, about the development of future degree courses, and to use the information gathered to improve services to the important group of students who are currently studying for a degree at Technikon Natal.

The purpose of this pilot survey is to gauge the staff's views on the current curriculum and to identify areas for improvement. The questions in this survey are designed to be as straightforward as possible, and your answers will be used to help us to improve the quality of our courses.

In order to ensure that the questions are as clear as possible, we have provided a list of definitions. A research professor will be available to help you if you are unable to complete the survey. Your answers will be kept confidential and will be used for research purposes only.

To ensure the confidentiality of your answers, the survey form will be kept in a secure location and will only be accessible to the research committee.

THANK YOU FOR YOUR TIME AND CO-OPERATION

1. General information about your course

Which postgraduate course are you enrolled for?

Master by research proposal and dissertation

Master by coursework and research proposal and dissertation

Doctorate with full research proposal and thesis

Are you employed as a full-time or part-time student?

Full-time

Part-time

Which Faculty are you in?

Art

Commerce

Engineering & Science

Health

Are you in a

Research Centre

Research Unit

Department

APPENDIX D

CONFIDENTIAL
Technikon Natal
POSTGRADUATE RESEARCH EXPERIENCE QUESTIONNAIRE
PILOT SURVEY

You are invited to participate in this *pilot survey* of research graduates by completing this questionnaire and returning it as soon as possible in the enclosed reply-paid envelope to

Centre for Research Development
Technikon Natal Berea Campus
P O Box 953
DURBAN
4000

The aim of the Postgraduate Research Experience Questionnaire is to gather information, not otherwise available, about the experience of higher degree research graduates. Your technikon can use the information gathered to improve services to this important group of students.

The purpose of this pilot survey is to refine the questionnaire by testing questions about your higher education experience. The questions in this form were devised following comments gathered from a face-to-face interview, a focus group and during a literature survey. It should take no longer than 10 minutes to complete. The final version of the survey form will be shorter.

In some instances, the questions might seem repetitive, but this is because I am trying different forms of wording. A common problem with un-piloted survey forms is that untested questions can be ambiguous or otherwise faulty, resulting in a waste of respondents' time.

To answer the questions, please place a tick inside the appropriate box, circle the appropriate number, or write in the space or boxes provided.

THANK YOU FOR YOUR TIME AND CO-OPERATION.

1. General Information about your course

Which postgraduate course are you enrolled for?

Masters by research project and full-dissertation	1
Masters by coursework and research project and mini-dissertation	2
Doctoral with full research project and thesis	3

Are you registered as a full-time or part-time student?

Full-time	1
Part-time	2

Which Faculty are you in?

Arts	1
Commerce	2
Engineering & Science	3
Health	4

Are you in a

Research Centre	1
Research Unit	2
Department	3

Please give your name so that it can be deleted from the mailing list for follow-up questionnaires. It will not be disclosed to any outside organisation or individual.

Name:..... Student No:.....

What was your main reason for choosing Technikon Natal?

Reputation of the Technikon	1
Technikon's location	2
Research interests of academic staff	3
Reputation of supervisor	4
Availability of funding	5
Project based at Technikon Natal	6
You are a staff member here	7
Other	8

Did you continue with your postgraduate studies immediately after receiving your last qualification?

Yes	1
No	2

If no, how long after ?.....

2. Demographics

Gender

Male	1
Female	2

Age in years

21 and under	1
22 - 27	2
28 - 33	3
34 - 39	4
40 - 45	5
46 and over	6

Race

African	1
Indian	2
Coloured	3
White	4
Other (specify)	5

Home language.....(Please state in your home language)

The purpose of the following questions is to collect information relating to graduates' perceptions of their higher education experience.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Does not apply
1. The way Technikon Natal (TN) handles mature students is poor.....	1	2	3	4	5	6
2. System is not geared towards postgraduate studies	1	2	3	4	5	6
3. It takes too long to register a proposal	1	2	3	4	5	6
4. There is insufficient qualified staff to deal with postgraduate students...	1	2	3	4	5	6
5. There was insufficient information available on registration	1	2	3	4	5	6
6. There is insufficient computer software for my research requirements...	1	2	3	4	5	6
7. There is no procedure for sharing of research resources i.e. equipment	1	2	3	4	5	6
8. Postgraduate students should be able to borrow library books for a longer time	1	2	3	4	5	6
9. The equipment provided to carry out my research is adequate.	1	2	3	4	5	6
10.The library treats you like an undergraduate student	1	2	3	4	5	6
11. Even when funds are approved, it takes a long time to gain access to them	1	2	3	4	5	6
12. The focus at TN is on undergraduate work	1	2	3	4	5	6
13. Lack of sufficient supervisors means that their time with you is limited	1	2	3	4	5	6
14. Not enough time is given to staff members to carry out research.....	1	2	3	4	5	6
15. There are insufficient guidelines on how to proceed when you first register	1	2	3	4	5	6
16. An orientation programme for postgraduate students is important	1	2	3	4	5	6
17. There is no communication between Dept. and Faculty about postgraduate issues	1	2	3	4	5	6
18. There is a lack of information about postgraduate issues.....	1	2	3	4	5	6
19. There is a lack of commitment in general from the institution to postgraduate students.....	1	2	3	4	5	6
20. TN needs a postgraduate centre.....	1	2	3	4	5	6
21. There should be guidelines on how to draw up a research budget	1	2	3	4	5	6
22. Technikon Natal is not geared for postgraduate students	1	2	3	4	5	6
23. I am satisfied with the quality of supervision I receive	1	2	3	4	5	6
24. I understand issues relating to intellectual property	1	2	3	4	5	6
25. Senior members of staff show an interest in my research	1	2	3	4	5	6
26. The department facilitates social contact with other postgraduate students	1	2	3	4	5	6
27. I learned to develop my ideas and present them in my written work ...	1	2	3	4	5	6
28. I had sufficient guidance in proposal writing skills	1	2	3	4	5	6
29. Research methodology as a subject is adequately covered.....	1	2	3	4	5	6
30. There are opportunities for professional contact with academic staff and researchers	1	2	3	4	5	6
31. The research ambience in the department is stimulating	1	2	3	4	5	6
32. Interaction with my supervisor/s resulted in regular advice/comments	1	2	3	4	5	6

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Does not apply
on my progress	1	2	3	4	5	6
33. There are opportunities for being involved in a broader research culture at TN	1	2	3	4	5	6
34. I was able to develop my skills in speaking about and explaining my work	1	2	3	4	5	6
35. I was given good guidance in the selection and refinement of my topic...	1	2	3	4	5	6
36. My supervisor/s were understanding if personal problems arose	1	2	3	4	5	6
37. The official period of candidature is adequate for the completion of my thesis at TN	1	2	3	4	5	6
38. I had a good induction into postgraduate research skills.....	1	2	3	4	5	6
39. I am well informed about what is involved in the thesis examination ...	1	2				
40. I have access to my supervisor/s when I need it	1	2	3	4	5	6
41. I have good access to the library services when needed.....	1	2	3	4	5	6
42. Other responsibilities mean that supervisors do not spend sufficient time with me	1	2	3	4	5	6
43. My supervisor/s have too many other students to supervise	1	2	3	4	5	6
44. I was given the opportunity to develop networks and contacts with outside organisations	1	2	3	4	5	6
45. My supervisor/s motivated me to do my best work	1	2	3	4	5	6
46. I received good guidance in my literature search	1	2				
47. I was encouraged to publish my work	1	2	3	4	5	6
48. I was provided with a stimulating and challenging environment at TN ...	1	2	3	4	5	6
49. There is appropriate financial support for my research activities	1	2	3	4	5	6
50. I have good access to the technical support I need	1	2	3	4	5	6
51. Overall, I am quite satisfied with the quality of my higher degree research experience	1	2	3	4	5	6
52. Overall, I am quite satisfied with the quality of services at TN.....	1	2	3	4	5	6
53. The Faculty Office is very supportive of postgraduate studies.....	1	2	3	4	5	6
54. My department has been helpful in providing information about postgraduate procedures	1	2	3	4	5	6
55. The Faculty Office provides all the necessary information postgraduate students need ...	1	2	3	4	5	6
56. There is sufficient expertise on qualitative research methods	1	2	3	4	5	6
57. The Faculty Research Committee has sufficient expertise in my research area	1	2	3	4	5	6
58. It took too long to register	1	2	3	4	5	6
59. The Technikon does not understand my needs	1	2	3	4	5	6

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Does not apply
60. Research administration is well organised in my faculty	1	2	3	4	5	6
61. The research support facilities provided are adequate	1	2	3	4	5	6
62. There are enough senior people here in my field to attract postgraduate students	1	2	3	4	5	6
63. The only reason I am able to cope with my studies is because I am very persistent	1	2	3	4	5	6
64. The Technikon should give study leave to staff to improve their qualifications...	1	2	3	4	5	6
65. Getting my proposal accepted is a problem in terms of the time it takes.....	1	2	3	4	5	6
66. There is no need for orientation because I got all the information I needed	1	2	3	4	5	6
67. I should be allowed to start my research work before my research proposal is accepted	1	2	3	4	5	6
68. There is not a single system here with the focus on postgraduate students	1	2	3	4	5	6
69. It is not easy to fit in research as a lecturer	1	2	3	4	5	6
70. The registration process is simple and straightforward	1	2	3	4	5	6
71. I think that the administration of research should be completely centralised	1	2	3	4	5	6
72. I am highly satisfied with the services offered by the Faculty Office	1	2	3	4	5	6
73. It is advantageous to belong to a research unit or centre at TN	1	2	3	4	5	6
74. My department is fully informed on TN research protocol	1	2	3	4	5	6
75. It is easy to get funding for postgraduate studies	1	2	3	4	5	6
76. The NRF has been supportive financially	1	2	3	4	5	6
77. TN provides sufficient information on employment options for postgraduates	1	2	3	4	5	6
78. The courses are practical enough to prepare me adequately for the outside world	1	2	3	4	5	6
79. There is sufficient time allowed to complete my studies	1	2	3	4	5	6
80. There should be more information available on intellectual property rights	1	2	3	4	5	6
81. TN provides adequate insurance cover for researchers	1	2	3	4	5	6
82. Ethics issues are clearly defined at TN.....	1	2	3	4	5	6
83. An induction programme for postgraduate students is important	1	2	3	4	5	6
84. There is sufficient expertise available in my area of research	1	2	3	4	5	6
85. A postgraduate information kit is important on registration	1	2	3	4	5	6
86. A dedicated postgraduate computer room is important	1	2	3	4	5	6
87. There should be a free writing consultancy available for postgraduate students	1	2	3	4	5	6
88. The department organises sufficient seminars for postgraduate	1	2	3	4	5	6

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Does not apply
students ...						
89. I am happy with the way in which my progress is monitored in the department	1	2	3	4	5	6
90. I should not have to re-register every year	1	2	3	4	5	6
91. My supervisor always returns my corrected work on time	1	2	3	4	5	6
92. Research administration is well organised in my department	1	2	3	4	5	6
93. My supervisor has given me a project plan	1	2	3	4	5	6
94. Research administration is well organised at TN	1	2	3	4	5	6
95. I would like the department to organise workshops & seminars for postgraduate student...	1	2	3	4	5	6
96. There is appropriate support for my research activities at TN	1	2	3	4	5	6
97. My supervisor has a good knowledge of my research area	1	2	3	4	5	6

YOUR COMMENTS

Please use this space to comment on this pilot questionnaire. As this is the first time this questionnaire has been tried, I would value your comments. Were there questions you did not understand, or ones in which the meaning seemed vague and ambiguous? Were there issues not addressed that you feel should have been included?

APPENDIX E

CONFIDENTIAL
DURBAN INSTITUTE OF TECHNOLOGY
POSTGRADUATE RESEARCH EXPERIENCE QUESTIONNAIRE
SURVEY (ex. Technikon Natal students 2001)

You are invited to participate in this **research** on postgraduates by completing this questionnaire and returning it by 20th June 2002 in the enclosed reply-paid envelope to

G McLean-Anderson
Centre for Research Development
Durban Institute of Technology - Steve Biko Campus
P O Box 953
DURBAN 4000

The aim of the Postgraduate Research Experience Questionnaire is to gather information, not otherwise available, about the experience of higher degree research graduates. Your technikon can use the information gathered to improve services to this important group of students.

The questions in this form were devised following comments gathered from a face-to-face interview, a focus group, pilot survey and during a literature survey. It should take no longer than 10 minutes to complete.

THANK YOU FOR YOUR TIME AND CO-OPERATION

IMPORTANT: If you return the completed questionnaire by 20th June 2002, you will be eligible to win one of the following books:

Huysamen, G.K. (1998) *Descriptive statistics for the social and behavioural sciences*. Pretoria: van Schaik.

Kruger, S.J., Welman, J.C. (2nd ed.) *Research Methodology*. Cape Town: Oxford University Press.

Mouton J. (2001) *How to succeed in your Master's and Doctoral Studies – A South African Resource Book*. Pretoria: van Schaik.

Three winners will be selected randomly from the completed questionnaires.

To answer the questions, please circle the appropriate number, **OR** write in the space provided.

1. General Information about your course

Which postgraduate course are you enrolled for?

Masters by research project and full-dissertation	1
Masters by coursework and research project and mini-dissertation	2
Doctoral with full research project and thesis	3

Are you registered as a full-time or part-time student?

Full-time	1
Part-time	2

Which Faculty are you in?

Arts	1
Commerce	2
Engineering & Science	3
Health	4

Are you in a

Research Centre (e.g. the Water Research Centre, CADENCE, etc)	1
Research Unit (e.g. the Entrepreneurial Research Centre, etc)	2
Department (e.g. Physics, Economics, Fine Art, Chiropractic, etc)	3

What was your main reason for choosing Technikon Natal? (You may circle more than one)

Reputation of the Technikon	1
Technikon's location	2
Research interests of academic staff	3
Reputation of supervisor	4
Availability of funding	5
Project based at Technikon Natal	6
You are a staff member here	7
Other	8

Did you continue with your postgraduate studies immediately after receiving your last qualification?

Yes	1
No	2

If no, how long after.....?

3. Demographics

Gender

Male	1
Female	2

Age in years

21 and under	1
22 – 27	2
28 – 33	3
34 – 39	4
40 – 45	5
46 and over	6

Race

African	1
Indian	2
Coloured	3
White	4
Other (specify)	5

Home language.....(Please state in your home language)

4. What attracted you to the programme?

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The purpose of the following questions is to collect information relating to graduates' perceptions of their higher education experience.

PLEASE NOTE THAT ALL QUESTIONS ABOUT YOUR SUPERVISOR REFER TO YOUR MAIN SUPERVISOR ONLY. IF YOU WOULD LIKE TO COMMENT ON YOUR CO/EXTERNAL SUPERVISOR, OR ANY OTHER ISSUE YOU FEEL STRONGLY ABOUT, PLEASE USE THE SPACE PROVIDED FOR 'YOUR COMMENTS' AT THE END OF THE QUESTIONNAIRE.

	Strongly disagree	Disagree	Neither agree nor	Agree	Strongly agree	Does not apply
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1. The way Technikon Natal (TN) handles mature students is poor	1	2	3	4	5	6
2. System is geared towards postgraduate studies	1	2	3	4	5	6
3. It takes too long to get my research proposal approved	1	2	3	4	5	6
4. There is sufficient qualified staff to deal with postgraduate students	1	2	3	4	5	6
5. There is sufficient expertise available in my field	1	2	3	4	5	6
6. There is sufficient computer software for my research requirements	1	2	3	4	5	6
7. Sharing of research resources i.e. equipment etc, is no problem	1	2	3	4	5	6
8. Postgraduate students should be able to borrow library books for a longer time	1	2	3	4	5	6
9. The equipment provided to carry out my research is adequate	1	2	3	4	5	6
10. The library treats you like an undergraduate student	1	2	3	4	5	6
11. Even when funds are approved, it takes a long time to gain access to them	1	2	3	4	5	6
12. The focus at TN is on undergraduate work	1	2	3	4	5	6
13. Lack of sufficient supervisors means that their time with you is limited	1	2	3	4	5	6
14. Not enough time is given to staff members to carry out research	1	2	3	4	5	6
15. There are insufficient guidelines on how to proceed when you first register	1	2	3	4	5	6
16. An orientation programme for postgraduate students is important	1	2	3	4	5	6
17. There is no communication between Dept. and Faculty about postgraduate issues	1	2	3	4	5	6
18. There is a lack of information about postgraduate issues	1	2	3	4	5	6
19. There is a lack of commitment in general from the institution to postgraduate students	1	2	3	4	5	6
20. TN needs a postgraduate centre	1	2	3	4	5	6
21. There should be guidelines on how to draw up a research budget	1	2	3	4	5	6
22. I am satisfied with the quality of supervision I receive	1	2	3	4	5	6
23. I understand issues relating to intellectual property rights	1	2	3	4	5	6
24. Senior members of staff show an interest in my research	1	2	3	4	5	6
25. The department facilitates social contact with other postgraduate students	1	2	3	4	5	6
26. I learned to develop my ideas at TN and present them in my written work	1	2	3	4	5	6
27. I had sufficient guidance in proposal writing skills	1	2	3	4	5	6
28. Research methodology as a subject is adequately covered	1	2	3	4	5	6
29. There are opportunities for professional contact with academic staff and researchers	1	2	3	4	5	6
30. The research ambience in the department is stimulating	1	2	3	4	5	6

31. Interaction with my supervisor resulted in regular advice on my progress	1	2	3	4	5	6
32. There are opportunities for being involved in a broader research culture at TN	1	2	3	4	5	6
33. I was able to develop my skills in speaking about and explaining my work	1	2	3	4	5	6
34. I was given good guidance in the selection and refinement of my topic	1	2	3	4	5	6
35. My supervisor was understanding if personal problems arose	1	2	3	4	5	6
36. Most of my fellow students have dropped out or are thinking about it	1	2	3	4	5	6
37. I am well informed about what is involved in the thesis examination	1	2	3	4	5	6
38. I have access to my supervisor when I need it	1	2	3	4	5	6
39. I have good access to the library services when needed	1	2	3	4	5	6
40. I have often felt isolated during my postgraduate studies	1	2	3	4	5	6
41. My supervisor has too many other students to supervise	1	2	3	4	5	6
42. I was given the opportunity to develop networks and contacts with outside organisations	1	2	3	4	5	6
43. My supervisor motivated me to do my best work	1	2	3	4	5	6
44. I received good guidance in my literature search from my supervisor/s	1	2	3	4	5	6
45. I was encouraged to publish my work	1	2	3	4	5	6
46. I was provided with a stimulating and challenging environment at TN	1	2	3	4	5	6
47. There is adequate financial support for my research activities	1	2	3	4	5	6
48. I have good access to the technical support I need	1	2	3	4	5	6
49. Overall, I am quite satisfied with the quality of my higher degree research experience	1	2	3	4	5	6
50. My department has been helpful in providing information about postgraduate procedures	1	2	3	4	5	6
51. The Faculty Office provides all the necessary information postgraduate students need	1	2	3	4	5	6
52. There is sufficient expertise on qualitative research methods at TN	1	2	3	4	5	6
53. The Faculty Research Committee has sufficient expertise in my research area	1	2	3	4	5	6
54. It took too long to register as a postgraduate student	1	2	3	4	5	6
55. The Technikon does not understand my needs	1	2	3	4	5	6
56. Research administration is well organised in my faculty	1	2	3	4	5	6
57. I understand the functions of the Faculty Office	1	2	3	4	5	6
58. There are enough senior people here in my field to attract postgraduate students	1	2	3	4	5	6
59. The only reason I can cope with my studies is because I am very persistent	1	2	3	4	5	6
60. The Technikon should give study leave to staff to improve their qualifications	1	2	3	4	5	6
61. Getting my research proposal accepted is a problem in terms of the time it takes	1	2	3	4	5	6
62. There is no need for orientation because I got all the information I needed	1	2	3	4	5	6
63. I should be allowed to start my research work before my research proposal is accepted	1	2	3	4	5	6
64. There is not a single system here with the focus on postgraduate students	1	2	3	4	5	6
65. It is not easy to fit in research as a lecturer	1	2	3	4	5	6
66. The registration process is simple and straightforward	1	2	3	4	5	6
67. I am highly satisfied with the services offered by the Faculty Office	1	2	3	4	5	6
68. It is advantageous to belong to a research unit or centre at TN	1	2	3	4	5	6
69. My department is fully informed on TN research protocol	1	2	3	4	5	6
70. It is easy to get funding for postgraduate studies	1	2	3	4	5	6
71. The National Research Foundation has been supportive financially	1	2	3	4	5	6
72. TN provides sufficient information on employment options for postgraduates	1	2	3	4	5	6
73. The courses are practical enough to prepare me for the outside world	1	2	3	4	5	6

74. There is sufficient time allowed to complete my studies	1	2	3	4	5	6
75. There should be more information available on intellectual property rights	1	2	3	4	5	6
76. TN provides adequate insurance cover for researchers	1	2	3	4	5	6
77. The TN research Ethics Policy is clearly defined	1	2	3	4	5	6
78. There is sufficient expertise available in my area of research	1	2	3	4	5	6
79. A postgraduate information kit is important on registration	1	2	3	4	5	6
80. A dedicated postgraduate computer room is important	1	2	3	4	5	6
81. There should be a free writing consultancy available for postgraduate students	1	2	3	4	5	6
82. The department organises sufficient seminars for postgraduate students	1	2	3	4	5	6
83. I am happy with the way in which my progress is monitored in the department	1	2	3	4	5	6
84. I should not have to re-register every year	1	2	3	4	5	6
85. My supervisor always returns my corrected work on time	1	2	3	4	5	6
86. Research administration is well organised in my department	1	2	3	4	5	6
87. My supervisor and I worked out my project plan together	1	2	3	4	5	6
88. Research administration is well organised at TN	1	2	3	4	5	6
89. My supervisor has a good knowledge of my research area	1	2	3	4	5	6
90. I am satisfied with my supervisor	1	2	3	4	5	6
91. Contact with my supervisor resulted in regular remarks on my progress	1	2	3	4	5	6
92. I had a problem coping with SPSS	1	2	3	4	5	6
93. The statistician understands my subject	1	2	3	4	5	6
94. My research experience improves each year	1	2	3	4	5	6
95. There is no communication between department and student	1	2	3	4	5	6
96. There is no guidance from the library for the literature search	1	2	3	4	5	6
97. I was happy with my postgraduate experience until the research began	1	2	3	4	5	6
98. I did things wrong because no one told me – I learnt through word of mouth	1	2	3	4	5	6

YOUR COMMENTS

Please use this space to comment on your higher degree research experience

APPENDIX F

31st May 2002

TO ALL EX.TECHNIKON NATAL 2001 POSTGRADUATE STUDENTS

Dear Student,

An in depth investigation into the postgraduate experience at Technikon Natal is being undertaken as part of a Master's study. The aim of the study is to conduct a survey in order to identify factors that impact on the postgraduate experience. These findings could be invaluable to ensure quality in the newly merged institution.

As a postgraduate student you are cordially requested to complete this questionnaire. Any information supplied will be strictly confidential. Individual responses will not be made public under any circumstances.

Thank you, in anticipation, for your participation in this important investigation.

Professor A L du Preez
Deputy Vice Chancellor: Academic
Durban Institute of Technology

APPENDIX G

Durban Institute of Technology

Memo

To: HEADS OF ACADEMIC DEPARTMENTS
From: PROFESSOR A.L. DU PREEZ, Deputy Vice-Chancellor: Academic
Date: 2004/02/26
Re: POSTGRADUATE SURVEY (ex. Technikon Natal 2001 students)

Attached is a copy of a questionnaire that has been sent to all postgraduate students registered at Technikon Natal in 2001. The questionnaire forms part of a Master's study.

Your assistance is requested to ensure that the largest possible number of students complete the questionnaire for this important survey. In this study the focus will be on the quality of the research experience at Technikon Natal.

The quality issue, the changing higher education landscape, and the merger have combined to make a study of this nature a priority and although the project is limited to Technikon Natal postgraduate students in 2001, the results can nevertheless form a discussion document for consideration in the newly merged institution.

Please make every effort to inform your lecturers and ask them to encourage their students to complete the questionnaire.

A L DU PREEZ