Day jobs/nightwork: Academic staff studying towards higher degrees

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Abstract
Universities of Technology (UTs) offer career-focused education in a wide variety of disciplines and fields. Traditionally, UTs recruited academic staff with relevant workplace experience, rather than academic qualifications. The result of this strategy was, while many lecturers possessed professional qualifications in their field, they did not have Masters or Doctoral degrees. Much has changed over the past years. For example, most UTs now have requirements that, in order to be appointed as a lecturer, new staff should already be in possession of a Masters degree (although in several programmes this is not a viable requirement). Existing members of staff (appointed before the Masters degree was required) are encouraged to study towards higher degrees. The attainment of a Masters (and preferably a Doctoral) degree, followed by research outputs, are important considerations for promotion and notch increases.
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Trying to study while working full-time has many challenges, and busy lecturers undertaking this journey need various forms of support. They need teaching relief, research assistance and financial support for their research activities as well as access to resources and equipment and the support of experienced and knowledgeable supervisors and mentors. Academic staff members’ perceptions and reflections on the experience of studying towards Masters and Doctoral degrees were canvassed through an institution-wide survey. In this article, we discuss the findings of the survey, and recommend ways in which institutions could support academic staff who are engaged in studying towards higher degrees.

INTRODUCTION

There has been renewed international interest in postgraduate education and its relationship to sustainable development, international competitiveness and the growth of democratic societies (European University Association 2005). The importance awarded to postgraduate education in South Africa is informed by arguments around the development of a ‘high skills’ economy, in particular the critical contribution of postgraduates to knowledge, innovation, national wealth and welfare (Kraak and Press 2008). Postgraduates, particularly in fields of science, engineering and technology (SET), are expected to contribute both to knowledge and to national development (Ministry of Education 2001). A number of programmes, support mechanisms, as well as locally and internationally funded capacity development initiatives have focused on increasing the numbers of South African Masters and doctoral graduates over the past fifteen years. All of these documents have in common their concern with postgraduate education as the basis for the production of high-level skills and research. The promotion of postgraduate education is reflected in the national funding framework for higher education and in several of the new programmes launched by funding agencies and science councils (e.g., South African Department of Science and Technology 2009; South African National Research Foundation 2007).

The SET focus of these initiatives has particular implications for the developing universities of technology (UTs). Prior to 1994, the South African higher education system was divided into universities and technikons. Traditional universities were expected to undertake ‘scholarly activities in which knowledge . . . is studied’ while technikons engaged in ‘activities . . . concerned with application of knowledge’ (Bunting 2002, 62). Unlike traditional universities that valued academic qualifications and publication records, the technikons considered skills, abilities and experiences to be important, and had no expectation that staff should undertake research that would lead to new intellectual knowledge (Bunting 2002). Since the National Plan for Higher Education was released in March 2001 and the report on the Restructuring of the Higher Education System in South Africa in December 2001, the South African higher education system has witnessed considerable transformation (Jansen 2004). Former technikons have merged with traditional universities to become ‘comprehensive universities’ and those that have remained independent, have become UTs.
All higher education curricula now include regulations on ‘growth and quality ... by requiring registration, accreditation and quality assurance’ (Jansen 2004, 299). These developments have shifted the roles of UTs from the acquisition of technical skills to life-long learning, integrated knowledge, skills, practice, technology and research – all of which have had ‘dramatic implications on staffing, students and programmes’ (Jansen 2004, 297). Most UTs have created enabling funding mechanisms to ensure that all existing, and newly appointed staff, are trained to at least Masters level to satisfy this new mandate.

Of the 41,383 academic staff employed in South African public higher education institutions, 6,806 have doctoral degrees (16%) and 14,033 have Master’s degrees (34%). This means that 50 per cent of academic staff has a qualification lower than a Master’s degree (CHE 2009a). The distribution of highly qualified academics is uneven; the historically white traditional universities have considerably more staff with Ph.D.s than comprehensive universities or universities of technology. These findings have two implications: firstly, there is a lack of supervisory capacity within the system, and secondly, it is likely that many Masters and doctoral candidates are academic staff members themselves. A study commissioned by the Council on Higher Education (CHE 2009b) has highlighted several difficulties in the state of postgraduate education in South Africa: attempts to broaden participation in postgraduate education have resulted in slow progress towards gender and race parity; but while policies and incentives have increased enrolments, they have had practically no impact on graduation rates.

Research training is attracting scrutiny as an area of study that has importance for the quality of academic institutions and significance for the global knowledge economy (Barnacle 2004). Universities throughout the world are undertaking benchmarking exercises in which they compare themselves to other universities on appropriate indices in order to establish their current levels of performance and to initiate continuous self-improvement (Marsh, Rowe and Martin 2002). Changes in South Africa’s higher education system (institutional mergers, developmental concerns, market forces, expansion of enrolment, etc.) offer particular challenges to postgraduate research and the comparability of South African standards internationally (Subotzky 2003).

In response to national and institutional policies and incentives with regard to the improvement of staff qualifications in UTs, this article presents the findings of a research project on staff who are currently undertaking, or who have recently completed postgraduate studies, while employed at a UT. It explores the institutional environment and supervisory practices as expressed through staff perceptions and reflections. The focus on staff opinions is intentional as the study’s main objective is to determine the needs of academic staff members studying towards higher degrees. The issues explored are thus those raised by the academic staff members themselves.
OVERVIEW OF THE LITERATURE

This literature review begins with a survey of general issues with regard to postgraduate supervision, and then narrows down to the more specific issues involved in part-time postgraduate education, and finally focuses on issues pertaining to academic staff members studying towards higher degrees.

General issues in postgraduate supervision

While the role of the research supervisor, the process of supervising research, and students’ perceptions of difficulties or satisfaction with the supervisor and the process all play a role in the successful completion of postgraduate study, Manathunga (2005) suggests that the selection process of candidates should also be considered. Many Ph.D. candidates, in particular, are under-prepared for doctoral studies. Research findings have shown, for example, that many postgraduate students’ information seeking skills are inadequate (Zaporozhetz 1987). This is an issue not usually addressed by supervisors, who tend to assume that candidates have both information finding and information using skills and, instead, focus on matters of research methodology. Researchers thus recommend that training of candidates should include bibliographic instruction and research methodology instruction. In a study on the needs of engineering postgraduates, Primrose, Leonard and Singer (1996) note that there are very little in the way of guidelines for the training of Ph.D. engineering candidates.

Recent research (Vilkinas 2002; Grant 2003; Buttery et al. 2005) suggests that the role of the supervisor should be re-evaluated. Inherent in this role is the transformation of candidates into independent researchers and the production of good theses. At the start of the study, clear boundaries should be set to define the supervisors’ involvement in production of the thesis (Phillips and Pugh 2000; Sharp, Peters and Howard 2002).

Research supervision is a bi-lateral process, a complex interaction between the supervisor and the student. This interaction affects the quality of the supervisory process. Many postgraduate students are dependent on their supervisors for guidance and motivation in a range of research-related tasks (work organisation and problem solving, research preparation, and communication); this dependency affects the research supervision process (Kam 1997). Even though several authors have pointed out the importance of defining the role of the supervisor, most postgraduates are unable to define their expectations of the supervisor’s involvement in their studies (Filler 1994; Mouton 2001; Kapp 2002; Phillips and Pugh 2000). Candidates are often unaware that they should participate in defining the role of the supervisor, or they are unsure of what the supervisors’ role should be. Many students embark on their studies with the expectation that the supervisor will help them complete their studies successfully (Woolhouse 2002). Inevitably, difficulties and delays are experienced when there are disagreements between supervisor and candidate (Backhouse 2007), or disruptions caused by a change of supervisor (Ivey and Rowley 2005).
In the journey towards a successfully completed thesis, the supervisor is required to combine research knowledge and expert knowledge with interpersonal skills (Sharp, Peters and Howard 2002). To manage this progress effectively, continuous formative assessment is needed to judge the varying combinations of knowledge and skills of candidates at the different stages in the research process. In a study examining the beliefs of supervisors and Ph.D. candidates, four distinct orientations to supervision were identified. These orientations differed in terms of whether the supervisor should direct and take responsibility for the research (controlling beliefs) or should guide the process (guiding beliefs), and whether the focus of supervision should be more upon the research tasks to be completed (task-focussed beliefs) or upon the development of the candidates (person-focussed beliefs) (Murphy, Bain and Conrad 2007). These distinctions, plus the types of interconnections between each orientation, support the conclusion that beliefs about education are central, even though supervision is intimately concerned with research production.

From an Australian longitudinal study, it appears that candidates who felt involved in supervisor selection, whose topics were well matched with their supervisor’s expertise and who developed a good interpersonal working relationship with their supervisor were more likely to make good progress and be satisfied (Ivey and Rowley 2005). Other studies have shown that student satisfaction is more likely when supervisors are experienced senior academics or when the student had two active supervisors (Burnett 1999). It should, however, be pointed out that appropriate research supervision has no set prescription; rather the quality and style of supervision, role expectations of student and supervisor, the field of study, and other characteristics, have all to be jointly considered (Pearson 2005).

**Issues in part-time postgraduate study**

Over the past twenty years, there has been a steady growth in the numbers of part-time research students in universities. This increase is possibly due to previous growth in part-time coursework Masters degrees. Research degrees by full thesis are different from coursework-based degrees; they are not only about research training – in the sense of teaching people how to conceptualise, plan, undertake, analyse and communicate research – but are also about the candidate’s production of new and significant knowledge (Evans 2002). The rise of part-time candidature suggests that there is a need for a greater understanding and analysis of needs and benefits of part-time postgraduate students, many of whom are marginalised in mainstream academic culture (Deem and Brehony 2000).

Concerns to improve the effectiveness and efficiency of research supervision have led to the introduction and extension of programmes for supervisor development. Issues addressed are: part-time, mature students’ diverse needs, interests, and backgrounds, keeping students on track while accommodating work and family commitments, and acknowledging their autonomy (Evans 1995).
Academic staff members studying towards higher degrees

In their survey of European countries, Huisman, De Weert and Bartelse (2002) found that most Ph.D. candidates were academic staff members on a ‘tenure-track’. Similar studies, done in the U.S. (CHEA 2007), United Kingdom (HERO 2007) and New Zealand (NZUAUU 2007) report similar findings. In an Australian study, Harman (2002) found that, although the Ph.D. degree is intended to provide high level research career training, slightly more than half the candidates interviewed expected to follow research careers. While many Masters’ candidates (particularly MBAs), and some doctoral candidates, hope to enter the corporate environment, many are studying for a higher degree because they are, or aspire to be, lecturers or researchers. Given that the majority of Ph.D.s are academic staff members, there are surprising few research-based studies that investigate their particular needs.

In a survey of Ph.D. candidates, their career plans and views on university-industry research links, Harman (2002) found student satisfaction with their course experience to be particularly low. Low levels of satisfaction appeared to be strongly linked to the quality and effectiveness of thesis supervision. Many Ph.D. students held negative views about academic careers, based on their perceptions of poor supervision. A higher proportion of students held positive views about university-industry research links, and students with industry research funding showed higher levels of course satisfaction than other students (Harman 2002). Huisman, De Weert and Bartelse (2002) point out that in the European context the negative perceptions of Ph.D. candidates has caused European universities to lose staff to the corporate sector and private research laboratories.

The research and management skills required by supervisors to support academic staff studying towards higher degrees differ greatly from those associated with other forms of research supervision. A training programme for supervisors of academic staff should teach the skills needed to conduct research, as well as prepare candidates for subsequent careers in academia (Primrose, Leonard and Singer 1996). The design and delivery of a professionally-oriented, post-graduate programme introduces new criteria for the selection and training of mentors and supervisors. A student body of potentially mobile, academic professionals compounds the problems.

In a relatively early study, Elton and Pope (1989) suggest that there is particular value in a collegial relationship between supervisor and candidate when they are colleagues, as is often the case when an academic staff member is studying within their own department or faculty. Collegiality can be fostered through the constructive interplay between organisational and personal or interpersonal factors, such as admission procedures, processes of matching students and supervisors for compatibility and shared responsibility for mutual learning (Elton and Pope 1989). Burnett (1999) recommends a ‘Collaborative Cohort Model’ for research supervision as an alternative to the ‘Apprentice Master Model’ that is traditionally used in postgraduate supervision.

The literature review has highlighted some of the difficulties, and has pointed towards alternative models, in particular the need for disaggregation and reconstitution.
of the mentoring and supervisory roles and their sensitive application, given the academic status of many postgraduate students.

RESEARCH DESIGN AND METHOD
A survey questionnaire was sent to all members of the academic staff at a UT, using both an e-notice board and mass emailing to the faculties. The survey was selected as a method, as anonymity was an essential criterion. Whilst interviews would have been preferable in order to obtain in-depth qualitative data in the form of comments, the disadvantage was that the interviewees would be known to the large group of researchers. It was therefore decided to implement survey questionnaires, which would guarantee anonymity – but to include opportunities for written, qualitative responses. The questionnaires comprised a quantitative section that captured respondents’ biographical data, type of study engaged in, employment status, and so on. There was also a series of statements which the candidates responded to, using a Likert scale, and there was a qualitative section in which staff members were required to reflect on a number of items. Forty-seven respondents sent their filled in questionnaires to the researchers.

Design of the survey form
The survey was designed to elicit both quantitative data as well as qualitative data and was formatted into four sections: 1) biographical data, 2) support received, 3) general perceptions of institutional support, and 4) reflections on the period of study.

FINDINGS FROM THE QUANTITATIVE DATA
The findings with regard to biodata, levels of institutional support, and staff perceptions of institutional support are presented in the following sub-sections.

Biographical data
Staff bio-data were captured with regard to the data fields as shown in Table 1.

Table 1: Biographical data

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male or Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group</td>
<td>30–35 years; 36–40 years; &gt;40 years</td>
</tr>
<tr>
<td>Field of study</td>
<td>Engineering, health, business, etc.</td>
</tr>
<tr>
<td>Length of employment service</td>
<td>&lt;5 years; ±5 years; &gt; 5 years</td>
</tr>
<tr>
<td>Job level</td>
<td>Junior lecturer, Lecturer, Senior Lecturer; Head of Department / Associate Professor/ Professor</td>
</tr>
<tr>
<td>Type of research degree</td>
<td>Masters, Doctorate, other</td>
</tr>
<tr>
<td>Study institution</td>
<td>The institution or other place of study</td>
</tr>
</tbody>
</table>
Most respondents were employed by the institution for longer than five years, 11 per cent of respondents had been employed for approximately five years, and a number (19%) were relatively new employees, having been employed for less than five years. The questionnaires were answered by six junior lecturers (13%), 28 lecturers (60%), six senior lecturers (13%) and seven heads of department (15%).

Most candidates for higher degrees were female (62%), and most were over 40 years of age (64%), with fewer in the 36–40 year age group (23%) and even less in the 30–35 year age group (13%). The majority of the respondents (66%) were registered for a higher degree at the institution; 34 per cent were registered at other institutions. The majority (64%) were registered for Masters degrees, 32 per cent for doctoral studies, and 4 per cent were registered for other qualifications (such as postgraduate certificates or diplomas).

The place of study was mostly the UT at which the survey was done (66% /N = 31) with those at other institutions comprising the remaining 34 per cent (N = 16).

It can therefore be assumed that the predominant biographical profile of the respondents is a female lecturer registered for a Masters’ degree; she is over 40 years old, and has more than five years’ service at the institution.

Support given by the institution

There were fifteen quantitative questions of the ‘Yes-No’ variety with a space left for comments relating to the ‘Yes’ response. The questions focused on time given for studies, teaching relief for lecturing load, funding of the degree and supporting resources such as research assistance, and attendance at relevant courses, seminars and conferences.

Slightly more than half (57%) of respondents were given time off for studying. Of those who received time off, the amount of time off varied between less than one year (85%), one year (11%); with one respondent receiving time off of more than one year.

Teaching relief was provided for very few respondents (11%/N = 5) with the vast majority (89%) receiving no teaching relief. Most of the respondents (96%) made use of the library resources; only two staff members used other resources. Respondents valued the availability of text-based resources provided by the university library and the ease of accessing expert literature via the electronic data-bases. Research assistance was provided to 26 per cent of the respondents (N = 12), with 74 per cent (N = 35) not receiving research assistance. Of the 12 respondents who received research assistance, 83 per cent received assistance for less than 3 months (N = 10), and 8 per cent (N = 1) received either exactly 3 months or more than 3 months’ assistance.

The institution contributed to the fees of 83 per cent of the respondents (N = 39) with 17 per cent (N = 8) receiving no funding from the institution. The institution contributed to the expenses of 36 per cent of the respondents (N = 17). Staff members studying towards higher degrees were assisted financially by the university with on
average R10,000.00 per year towards the candidate’s studies. Very few candidates received additional funding from the institution’s internal research fund or from other funding agencies, such as the National Research Foundation (NRF). A result of the lack of research funding was that most respondents (74%) did not have research assistance, funding for equipment, or conference funding. Only 43 per cent were planning to attend an international conference in their field.

Thus academic staff received varied levels of support; not everyone had same amount or same kind of support. Most had no teaching relief while undertaking their studies. Several candidates pointed out in their elaborations that it was particularly difficult to find teaching replacements in technical fields, due to the shortage of skills in these fields and the unattractive salaries offered to contract staff.

Typically, the support given by the institution was some contribution to the fees, but less than one year of time off for studying – with no teaching relief and no research assistance.

**Staff perceptions**

A section of the questionnaire was designed to measure the intensity of respondents’ experiences of studying for a higher degree. The method used was a Likert scale of five degrees, with the degrees being: strongly agree = 5; agree = 4; unsure = 3; disagree = 2; strongly disagree=1. See Table 2 for the results. There were ten statements about the support given by the institution, the quality of supervision, the availability of funding, and access to resources.

**Table 2:** Likert scale for staff perceptions of institutional support

<table>
<thead>
<tr>
<th></th>
<th>I feel that I am/was well supported by [the institution] during my higher degrees studies.</th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>I have/had good supervision.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>I have/had an adequate research budget.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>My supervisor is/was knowledgeable in the area of my study.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>I have/had access to up-to-date journals in my field.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>I attended a workshop on writing a research proposal.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>I was given adequate time off during my studies.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>I was well supported by my department (unit or centre).</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>On the whole, study for a higher degree is/was stimulating.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>I attended a workshop on writing up a thesis.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

The results of the survey are shown in Figure 1; ratings of 4 and 5 indicate a high level of satisfaction level, a rating of 3 is neutral, while ratings of 1 and 2 are negative:
Staff tended to be neutral about levels of support in general. They tend to be satisfied with the quality of supervision and the knowledge/expertise of their supervisors (although in the qualitative data fairly high levels of dissatisfaction were evident). The availability of up-to-date journals and the intellectual simulation of studying towards a higher degree were valued. Matters of concern had to do with budgets/financial resources, the level of training received (or not received) – in particular training around thesis writing, as well as time constraints and a perceived lack of departmental support.

**FINDINGS FROM THE QUALITATIVE DATA**

A section of the questionnaire was qualitative and was designed for the respondent to provide details on the difficulties experienced whilst studying for the higher degree, as well as giving recommendations as to what additional support practices could be incorporated in the research policies of the institution. The qualitative data were coded and thematically analysed by the researchers. The categories are presented below.

**Difficulties**

**Lack of time**

Practically all respondents mentioned time constraints as a difficulty in managing a full teaching load while trying to find the time ‘to make meaningful progress’ (C03) on their research projects (C02; C05; C06; C07; C09; C10; C14; C15; C24; C27; C27; C30; C32; C33). Participant C02 claimed that ‘I would have finished sooner if I had time off... also would have enjoyed my studies more... I missed out on a lot of training sessions and meetings... because of not having time to participate in
these things’ (C02). The need for additional time made some candidates take unpaid leave because ‘it was simply not possible to go home and work at night – night after night – when I was very tired after a full day’s work’ (C19).

**Lack of departmental support**

Several candidates wrote about the need for better support from their department or the institution (C09; C13). One participant claimed that there was ‘absolutely no support provided ... in fact I was more discouraged than motivated by the HoD ...’ (C13).

**Lack of research assistance**

Most of the candidates did not have a research assistant to help them with tasks such as data inputting, calculations, bibliographies (e.g. capturing references on EndNote), setting up the laboratory, or basic tasks like filing or photocopying.

**Lack of teaching relief**

Several candidates pointed out the need for teaching relief (C10; C20). There were also difficulties, particularly in the technical fields, of finding ‘someone to fill in for me’ (C39). Candidate C10 was provided with a teaching assistant, but complained that ‘the person was not experienced enough to cope on her own and needed a lot of guidance and assistance’ (C10). Many lecturers had ‘large classes’ (C34) and many contact hours per week. One respondent writes:

> I know that doing a PhD means hard work – and I’m up for it. However, finding . . . adequate funding to “buy” myself out of teaching for a while proved impossible – it’s not easy to get lecturer replacement in my field (not at the salary offered) (C38).

**Lack of family time**

The lack of ‘balance’ in one’s life when studying for a higher degree was mentioned by several candidates (C23; C24; C27; C35; C39; C42). Candidate 23 states that after working full-time, attending lectures four night a week, she would have to ‘go home be a wife and mother’ (C23); this caused several candidates to be ‘very stressed out’ (C37). One respondent describes the experience of studying for a higher degree as:

> Abandoning my family to spend my nights at the computer, being anti-social and generally suffering from exhaustion for two years (C42).

**Poor research supervision**

‘Weak supervision with little to no guidance or support’ (C40) was cited as a difficulty by several respondents (C15; C16; C19; C20; C22; C26; C31; C33; C40; C41). Candidate C15 felt that her supervisor lacked ‘the necessary intellectual leadership in the field’ for doctoral supervision. Inexperienced supervisors, according to one participant, ‘cause endless delays and re-doing work’ (C26). Candidate C16 lists
several complaints including that her supervisor ‘concentrated on the technical aspects more than on the conceptual issues’ (C16), which meant that she did ‘unnecessary questionnaires’ and had to re-do several other aspects of her work. Candidate C19 claims to have had ‘minimal supervision [and] did most of the work [her]self’ (C19). Sometimes supervisors were absent, as in the following example:

... due to unforeseen circumstances my supervisor was only available at the commencement of the study ... as a result I was left to do most of my work on my own – resulting in some of the information having to be redone (C22).

Some supervisors were very busy; candidate C31 found it difficult to ‘get guidance from [her] supervisor who is very busy and has around five other M.Tech. students’ (C31). Candidate 41 was ‘still busy with my M.Tech., no progress because of an overworked supervisor, who has not got much time for me and my research project’ (C41). As candidate C33 put it: ‘good supervision is hard to find’ (C33).

The research process

Difficulties with the actual research itself did not feature very strongly amongst the respondents’ lists of difficulties. Research-related difficulties did not have a consistent pattern. One respondent claimed that she ‘was thrown in at the deep end to start reading about ± 200 journal articles’ (C16). Another said that finding ‘information on my topic’ was difficult (C30). Participant 08 said that ‘finding a focus and making sense of information overload’ (C08) was a challenge. Candidate C12 pointed out that low energy levels are not ‘conducive to reading and understanding complex ... material’ (C12). Candidate C19 concurred, saying that ‘once most of the conceptualizing and analysis was done, I could go to work full time, and work at night to do the writing and polishing and checking – that did not demand as much brain power as the working it all out’ (C19). A few participants worried ‘about the quality of [their] work’ (C35), and one candidate felt that his ‘research methods were suspect’ (C11). ‘Writing up’ was experienced as a difficulty by several participants, one of whom claimed that ‘trying to find the time to do my research is difficult, to write up even more difficult – because I’m not a writer, and I have very little help with the writing aspects’ (C25). Candidate C21 said that ‘doing the research and writing articles for publication’ (C21) was a particular challenge.

Resources for doing research were generally not reported as difficulties, although a few participants experienced the challenge of ‘trying to get proper equipment’ (C38), and having ‘no money to buy books or subscribe to journals which are not available electronically’ (C07).

Suggestions for addressing difficulties

In order to address the difficulties mentioned above and to pave the way for those staff members who intend to undertake higher degrees studies, candidates suggested that the following policies and practices be put in place.
Day jobs/nightwork: Academic staff studying towards higher degrees

• Policies

Respondents suggested a range of institutional policies that were needed to support academic staff doing postgraduate research.

A fair workload model

Several candidates articulated the need for an institutional policy to reduce their workload (C03; C05; C09; C11; C13; C14; C19; C25; C27; C28; C35; C36; C38; C46). Candidate C38 echoed this critical plea: ‘A policy on a reduced teaching load for researchers is urgently needed!’; having the time to devote to postgraduate studies is necessary to ‘become adequate researcher[s]’ (C09). Similarly, Candidate C25 called for a ‘Fair distribution of teaching load, and time off for research – especially if the person is being productive and making the deadlines’.

Sabbatical/study leave

Some candidates proposed time off or ‘sabbatical leave for upgrading of qualifications, as is the practice in traditional universities, rather than restricting staff to use study leave’ (C02; C08; C09; C19; C24; C25; C26; C27; C28; C29; C31; C39). Without adequate time off ‘...the whole experience can become a nightmare’ (C26). Linked to requests for time off is the need focussed time on postgraduate studies ‘time to read, think, plan, write, without the usual fragmented focus that occurs when one is also working’ (C12); this could acculturate the candidate to the research agenda ‘given that former technikon employees are generally inexperience[d] in the area of research’. Acknowledging individual differences, ‘it takes an inexperienced researcher a substantial time to become oriented in the world of research, to gain confidence in using the discourse and participating in research forums’ (C12).

Financial assistance

An institutional policy on financial assistance would be aligned with national objectives that support the upgrading of staff qualifications. In addition, ‘adequate funds’ would enable candidates to meet deadlines (C02) and to fund their research activities (C02; C05; C16; C17; C19; C20; C44; C46). Moreover, the ‘approval of research budgets prior to the start of a project’ could be an important mechanism to avoid frustration, particularly since ‘it is very disappointing to have your proposal approved and then find there is no budget for the research’ (C37).

Supervisor training and support

According to several candidates the appointment of competent supervisors should be regulated by institutional policy (C01; C19; C20; C26; C40), ‘as it is unfair to the student to have to put up with an untrained supervisor – it wouldn’t be allowed in other institutions’ (C40). Needless to say, the ideal supervisor would be a ‘dedicated person who plans the process methodically and sees it through till end of study’ (C43).
Incentives

Some candidates equate the attainment of a higher degree with career advancement (C023; C024; C041) and thus articulated the need for an institutional policy that ‘link[s] incentives to research outputs – such as staff promotion upon gaining an M or D degree – because this is not clear at the moment, you can work hard and stay as a lecturer for the rest of your life’ (C41).

• Practices

Central to such institutional policies are their ‘consistent application’ (C35), particularly since, as one candidate put it: ‘everyone seems to have a different story – some get paid leave, some no leave, some unpaid leave – some fees are paid, some fees are not paid – what’s the rule?!’

Four candidates identified research forums such as seminars, proposal writing workshops and ‘a support group that can meet regularly’ as valuable mechanisms to establish sound research practices (C04; C13; C21; C22) and to ‘help postgraduate students come to grips with key research issues such as . . . identification, evaluation and use of relevant sources, and how to write a literature review’. As one candidate observes ‘the research process, article writing and publication should take a central place in departments’ efforts’ (C21). Linked to this ‘meaningful assistance’ (C45) provided by the institution is candidates’ willingness to be accountable for contractual deadlines. Failure to adhere to deadlines and ‘progress reporting’ (C45) could result in candidates forfeiting benefits such as funding and time off (C02).

What was valued?

Staff valued issues such as, the role of the supervisor (C17, C27, C34, C35, and C38), training (C02, C04), and study leave (C03, C06, C10, C19, and C38) as well as organisational resources (C03, C09, C21, C25, C31, C32, C36, C38, C44; C45). However, the two stronger issues that emerged from the data are broadly categorised as being human and institutional support.

Support from supervisors and colleagues

Many respondents particularly valued the ‘human’ (e.g., empathy, sympathy, practical assistance) (C01, C09, C11, C12, C15, C16, C18, C19, C20, C30, C36, C42, C44) and ‘collegiate’ (e.g., intellectual, academic) elements of support (C01, C02; C09, C11, C12, C15, C18, C19, C21, C22, C25, and C42) from colleagues and supervisors alike. Social networks helped respondents to remain focused and committed. Those candidates who were part of research group or unit particularly valued the support and engagement with researchers working in a similar area (C11; C12; C15). Several candidates noted the particular help of library staff (C09; C40) and the usefulness of library and electronic resources (C03; C09).
Institutional support
Many responded expressed appreciation for the payment of course fees (C10); some candidates valued the study leave granted (C03; C06; C10). Financial support included conference costs, equipment and fees. There was an overwhelming response for this category and many respondents valued the institutions policy on funding research efforts. (C10, C16, C20, C21, C23, C24, C25, C26, C27, C28, C29, C30, C31, C33, C34, C36, C37, C40, C41, C42, C44, C45).

CONCLUSION
In this section the main findings are summarised in terms of the quality of the post-graduate experience, followed by a reflection on how the potential for the improved functioning of UTs if academics were to acquire higher degrees.

The quality of the post-graduate experience
The findings of this study indicate a link between the general quality of candidates’ postgraduate education experience and institutional and supervisory support. The findings also suggest a number of ‘warning signs’ that should alert supervisors to the fact that their research students are experiencing difficulties. There are very real time constraints when candidates have heavy teaching loads: the research process slows down and there is considerable frustration. Acquiring a higher degree under these conditions is almost unattainable. The lack of departmental support for staff members engaged in studying toward higher degrees was seen in the lack of teaching relief and research assistance. Poor research supervision practices and inexperience in managing the research process are also not conducive to timely completion or the quality of the research degree. The combined effect of these difficulties impacts the psychological and physiological health and wellness of staff, and on their performance and achievement. These impediments to progress on the research and thesis can counteract the benefits associated with having highly qualified workforce (Leder 1995).

The findings with regard to academic staff perceptions of the experiences as research students are summarised in Figure 2.

![Figure 2: Scenarios of post-graduate research](image-url)
Our study highlighted a number of factors that could predict research candidates’ timely completion of their studies; institutional factors include the implementation of fair workload model, the provision of sabbatical or study leave to enable timely completion, financial assistance (including teaching relief, research assistance, and research budgets – as well as payment of fees). The human factors include the training and support for supervisors and incentives (such as notch increases) for staff who achieve a higher degree. Consistent application of policies (everyone should understand ‘the rules’). The establishment of support groups and departmentally based seminar programmes and training are more likely to meet the needs of candidates in particular disciplines and fields than generic training. Once all the support structures are in place, various monitoring systems are needed, such as regular reports on candidates’ progress and the application of penalties for those who have received benefits, but have not been productive.

How the functions of UTs could be affected if academics were to acquire higher degrees

An area that emerged from the data, although not explicitly noted by the participants, is the link between research practice and teaching and learning. There is an emergent body of literature on the teaching-research nexus (e.g., Neuman 1992; 1996; Trowler and Wareham 2007; Jenkins, Healey and Zetter 2007). Academic staff who are engaged in research bring enthusiasm, current knowledge, a broad understanding of a range of issues within their fields, and credibility to their teaching practice (Lindsay and Jenkins 1998). Neuman (1992) claims that there are important, but often subtle, interconnections between research and teaching; she suggests a three-level nexus between teaching and research, namely: the tangible nexus (or transmission of advanced knowledge), the intangible nexus (or the development in students of an approach and attitude towards knowledge, and the provision of a stimulating and rejuvenating milieu for academics) and the global nexus (or the interaction between teaching and research at the departmental and not just individual level).

In the case of academic staff doing research-based higher degrees the linkages become even more important. Our data suggests that the staff doing higher degrees bring new practices to UTs: they are engaged in reading tasks in their disciplines, in understanding scientific methods, and in deep levels of thinking. As one of the respondents pointed out ‘. . . this is especially important given that former technikon employees are generally inexperienced in the area of research . . . ’(C12). Supervisors, as Murphy, Bain and Conrad (2007) point out, model pedagogic practice, and it is these models that staff are likely to take into their own classrooms. Using academic staff development to drive change in UTs will be dependent on the quality of the research supervision and knowledge produced.

UTs aspire to a research and development (R and D) culture through a focused approach to addressing the needs and priorities of industry, government and the regional community. This would include technological innovation and technology transfer, promoting and developing a culture for innovation, entrepreneurship and
technology transfer, and enhancing R and D downstream related activities such as the patenting, licensing, marketing and commercialization of intellectual property and R and D results in the form of products, processes and services (South African Technology Network 2009). Without appropriately qualified staff, it is unlikely that the UTs will be able to achieve their missions and aspirations.

RECOMMENDATIONS
In this section, we propose an interventionist strategy for improving the quality of postgraduate students’ experience of higher degrees, and for the timely completion of those studies. We conclude with suggested approaches to rethinking the research practices of academic staff and their supervisors in ways that acknowledge the complexity and the significance of multi-actor, multi-level local, national, international and global interactions.

Candidates are, however, located in different departmental, disciplinary and professional contexts. A supervisor training programme would need to develop the context-specific expertise and attributes in order to be a flexible professional development programme for supervisors in particular contexts.

Supervisory capacity
In addition to the suggestions made by the academic staff members themselves, we recommend a pro-active, interventionist approach to improving the quality of postgraduate study. We propose that supervisors should undergo supervision training that will sensitise them to candidates’ needs, raise awareness of ‘early warning signs’, adopt a range of explicit pedagogical strategies (such as more collaborative models) to support candidates’ progress and to model the kind of practices (e.g., around feedback and peer review) that academic staff could take into their own classrooms. This article articulates several generic processes that supervisors need to engage in for effective supervision. The lack of specific guidelines for Ph.D. training in SET fields (Primrose, Leonard and Singer 1996) is a particular concern for the promotion of postgraduate research in UTs. Successful graduates tend to have strong links with successful research projects, such as NRF-funded research niche areas, where they can be supported by a number of senior researchers and supervisors (CHE 2009a).

Supervisor-candidate relationships
The data suggests the need for both candidates and supervisors to improve their interpersonal skills generally, and for supervisors to develop more of a mentoring relationship with colleagues under supervision.

Selection of post-graduate students
Traditionally, undergraduates are identified by for their potential to succeed at Master’s or doctoral studies, or successful undergraduates come to a specific university in order to work with a specific supervisor or on a particular project. It has
been suggested that the provision of financial or other incentives might lead to more graduates of lower quality (Murphy et al. 2007). This is a concern at UTs, where the attainment of a higher degree is often linked to staff promotion. For this reason, we suggest that selection process include criteria such as the candidate’s interest and commitment, as well as the funding and other support available.

**Quality of postgraduate degrees**

The quality of the final thesis was not specifically addressed in this research project, but concerns around quality emerged from the data. Some of the data suggested that some candidates, as academic staff members, had set ideas about what topic they would like to research, but if there is no expertise in this area, the department or faculty should not accept the student. What is thus suggested to improve the quality of theses is a restriction on the range of topics supervised by departments.

**Field differences**

One of the main problems with the policy directives and funding incentives that promote postgraduate education in South Africa, is the tendency of such directives to oversimplify the complexities of knowledge building and transfer across contexts. Overall, graduation has been highest for the social sciences (11.6%) and lowest for SET fields (6.2%) (CHE 2009b); this suggests that existing funding formulae and mechanisms might not appropriately support the practices of supervision in all fields of knowledge and their complex configurations, and points to a need for discipline, or department-led, policies that address the needs of postgraduate education within disciplinary contexts.

The challenges to developing scientists and academics in UTs obviously cannot be addressed in the short term (Cloete and Galant 2005); but if UTs hope to contribute to South Africa’s international competitiveness, while at the same time responding to local needs, the obvious starting place is the improvement of academic staff qualifications.

**REFERENCES**


CHEA, see Council for Higher Education Accreditation.


NZUAAU, see New Zealand Universities Academic Audit Unit.

