Challenges in Postgraduate Research: How Doctorates Come Off the Rails

Sam Lubbe

Les Worrall

Rembrandt Klopper

Abstract

Worldwide the completion rate for doctorates ranges from poor to abysmal. The responsibility for this must be shared by candidates, supervisors and the institutions to which they belong. In particular, postgraduate students create a number of problems that cause their studies to derail. While supervisors can change particular supervision protocols to improve doctoral throughput rates, the extent to which postgraduate students themselves take ownership of their research, will ultimately determine their degree of success. This article will discuss some of the problems that frequently occur and present some insights from the supervision experience of the authors. We hope that our contribution will create more light than smoke, and that it will help to improve the postgraduate performance of students as well as supervisors.

Key Words and Phrases

Research candidates, postgraduate research, doctoral studies, mistakes, project management, stress, and supervisors

Introduction

Research suggests that up to half of the students who begin doctoral studies do not complete their studies at all (Golde, (2001)). If completion time is included in the equation along with completion rate, then an even smaller percentage of PhD candidates in the social and human sciences complete their doctorates within the three year

window which current funding regimes (certainly in the UK) reflect. This is because there are a wide variety of problems that doctoral students face, while little attention has, historically, been given to helping them with these challenges. Although the issues that are addressed in this article derive from Informatics, the article has been written generically with Alternation's trans-disciplinary readership in mined. Furthermore, although the authors have specifically taken note of postgraduate supervision in the South African context the observations presented here pertain to problems that doctoral candidates experience worldwide.

Little discussion is taking place, and little research is being been done about the low completion rate of postgraduate students, possibly because it is an embarrassment to supervisors. Poor postgraduate performance however should be discussed in the open because it is reducing the entry of well qualified junior staff members into academia, an issue of fundamental concern particularly given the greying age profile of established academics worldwide. The authors have realised, from their experiences as supervisors, examiners and in running doctoral programmes, that many of these mistakes are not idiosyncratic but systemic, because they are occur in many different settings. This article has drawn on available literature, as well as on the experience of the authors. It also synthesizes the panel discussion that was held at the European Conference on Business Research Methods that was held at Reading in 2005. No actual empirical research was done as this article reflects the general discussions held at the conference. The Reading Conference discussion panel included supervisors, normal faculty members, prospective and present doctoral candidates. The authors intend following up the conclusions presented here with empirical research among supervisors located at different international institutions of higher education.

In the view of the three authors the challenges that doctoral students face are:

- Misunderstanding the nature of doctoral research

- Unreasonable expectations of University or Departmental managers
- Drifting focus on the doctoral work
- Lack of project management skills
- Not finding the 'right' supervisor
- Under-resourcing
- Lack of control over research documentation
- Lack of management of the research process
- Inadequate status or recognition
- Inability of students to cope with postgraduate stress
- Inadequate quality control

This research concludes by placing doctoral research in context and explaining the implications for supervising doctoral research. As stated before, since this article reflects the discussion held at the panel discussion, no research methodology section was prepared since this article is a synthesis of the general discussion held at the conference.

Challenges Facing New Researchers

It would be wrong to trivialise the problems experienced by new researchers. A PhD is relatively easy to complete if one has 20:20 hindsight but when the average student begins their research, few seem to have any realistic idea about, generally what management research is, and, specifically what a PhD is. While some might know that their success or failure depends on them making 'significant contribution to knowledge', but how many would understand, at that point, precisely what process you have to go through to be able to make these claims. While ageing academics always say that things are getting worse, it is our view that in the field of business and management, things is actually getting worse. This we contend is due to several factors: first, the rise of modular programmes that lack disciplinary coherence; second, the stripping out of 'difficult' modules such as statistics and research methods from under-graduate programmes (or students' ability to

avoid them in their modular choices); and, the focus on modules that are more functional and instrumental than reflexive and critical.

Students generally do not initially have a clear understanding of research methodology, in general, or of the ontological or epistemological choices that they need to make in order to frame their research. Few of them have a deep understanding of how to select the most appropriate methodological framework to allow them to research their own topic. Perhaps the most important specific challenge a newcomer to doctoral research faces is to understand the complex nature of management research. Some students think that it is largely about data collection or doing case studies while others think it is about discovering something entirely new and original when a well focused but marginal addition to our knowledge of a field would suffice. Besides such vague and partial conceptualisations of what research entails, the problem is further compounded because some students do not pick – or are unable to pick - an appropriate topic for their research, or who end up with a supervisor with whom they cannot establish a meeting of minds.

Research students could for instance look back at their previous studies to identify an area about which they were passionate. When you are passionate, you will be committed to your work. It is only at postgraduate study by dissertation that students get to actually choose what they want to do, rather than being constrained by the dictates of a curriculum and a syllabus. When you have options, why chain yourself to a topic in which you have no real interest? Research involves not only hard analytical skills, it also requires a strong degree of emotional commitment.

In a study on experiences of doctoral students, Golde & Dore (2001) note that more than 40% of the postgraduate students reported that they would pick a different topic if they could start all over again, while 36% stated that they would select a different supervisor if they were given the opportunity to do so. About a third of the respondents noted that they would select a different field if they had to redo their postgraduate studies. Clearly, the selection of the right topic and the

right supervisor are crucial because postgraduate study is supposed to optimise a doctoral candidate's future career and research options. A carefully considered process of explicit topic analysis is required to ensure that the correct topic is picked, based on the candidate's prior knowledge, past work experience and future career desires.

Another important part of topic analysis is that the supervisor and researcher should establish from the outset that the research project is empirically doable and ethically sound. All too often students pick a topic that it could take a research team of ten people, five years to complete; or they pick an interesting topic for which it would be impossible to collect appropriate data due to problems of access or confidentiality or they pick a topic that looks far more like a work-based project than an area for doctoral work The student might underestimate the complexity of the research and pick a topic that is too broadly focussed, that cannot be researched in the required time frame, that may not get the compliance of respondents, or which is too expensive to research.

In order to select a viable topic the researcher has to engage in a careful and systematic process of research design that we briefly outline here:

- Determine your research interests within a specific field of inquiry and within a specific domain in that field primarily by reading the extant literature in that field – by so doing, you will locate your project within the current discourse that is being conducted in that area.
- Begin your literature survey to identify at least one specific problem that you want to solve by means of your research. If there is no problem that needs solving, there is no research to be done.
- Use the electronic resources of your institution to survey ongoing and completed research to ensure that your topic has not been, or is not being researched already.
- Determine the most appropriate research method to solve the problem, e.g. grounded theory, case study, ethnographic research,

survey research. Determine what your modus operandi would be for each method.

- Specify the key concepts that you will use in your research. Each key concept cites an authority on the subject gives a definition of the concept and shows relevance to the problem being researched.
- If you are conducting survey research, identify the following: Who is target population from whom you want to select your respondents? How many completed questionnaires do you need to have in order for your results to be valid for the whole target population? Whose permission has to be obtained to access the respondents? How will the questionnaire be disseminated? Under whose supervision will it be completed? How will it be retrieved? How will your results be analysed? What tests of significance need to be conducted in order to validate your results?
- If you are doing observational research, determine the following: Who is target population from whom you want to select your subjects? How and for how long do you have to observe your subjects in their natural surroundings in order for your results to be valid for the whole target population? Whose permission has to be obtained to access the subjects? How will your results of your observations be analysed and presented?

Many students are also unaware that their original research question(s) could and should be refined during the research process as they gain better insight into the problem that they are researching: this can only be done successfully if the students engage with the literature in their field a seek to keep themselves appraised of the debates that are developing in their area of study. Over a period of 3 to 4 years full-time or twice that part-time, it must be expected that the precise focus of study will change and the student must realise that they will have to take steps to manage the currency of their research. A good supervisor will make sure that a student continues to address the range of issues listed above.

To rank these challenges might mean that we have to rate one problem above the other and this might cause some confusion. It for this reason that we elected to discuss the issues alphabetically.

Student Expectations of Departmental Support

Golde & Dore (2001) state that the training that postgraduate students receive is not what they want and it does not prepare them for the jobs that they take. This is often a crucial problem for the student and one that means that much of the first year can be wasted as students are often just not equipped to begin doctoral work without the provision of substantial training in research methods and research design. In the UK, there is now much discussion about the creation of what is known as the 3+1+3 approach. In which the 1 year element between undergraduate studies and doctoral level study is in effect a grounding year for research training often resulting in the degree of Master of Research Methods (or some such appropriately titled award) which can be conferred on those who decide to exit their studies at this point. The fact that considerable effort is now taking place in the UK to improve the quality of research training by the imposition of 'standards' through the Quality Assurance Agency (http://www.qaa.ac.uk/public/cop/ cop/contents.htm) seems to indicate that steps are considered necessary by the QAA to set out what is considered to be an appropriate framework for the running of doctoral programmes. Presumably, if the UK's universities were perceived to be delivering a high quality PhD experience across the board, these steps would not have been considered to be necessary. The fact that the report finds it necessary to point out that 'Research opportunities should only be offered where students can be trained and supported within an environment which is supportive of research' might be taken as indicating that there are concerns that there are departments that are currently hosting doctoral programmes and students that clearly do not have the capacity so to do. These issues are of acute importance and perhaps explain why about half the respondents of the Golde & Dore (2001) study notes that they would change institution if they had to redo their post-

graduate study because of the lack of departmental involvement and the existence of an environment that was supportive to them. The QAA also points out that 'Research students should have access to training sufficient to gain the skills they need to design and complete their programmes effectively and to help prepare themselves for their subsequent career'. The fact that issues like these have to be made explicit is clearly an issue of some concern perhaps related to the very low completion rates in many UK HE institutions. As a contributor to the British Academy of Management's annual doctoral symposium, one of the authors has been disturbed by the obvious lack of training and institutional support that many doctoral candidates seem to be receiving. In the UK, the QAA stipulate that:

- Supervisors should possess recognised subject expertise.
- Supervisors should have the necessary skills and experience to monitor, support and direct research students' work.
- Research students should receive support and direction sufficient to enable them to succeed in their studies.
- The progress made by research students should be consistently monitored and regularly communicated to the students.

Grover (2001) correctly argues that if a department or school wishes to run a postgraduate program it must require the full involvement of the department in the form of clear institutional support. Just as the student must be supported by the supervisor, so the must the supervisor be supported by their head of department and by an institutional commitment to research that is manifest in the form of adequate resourcing. Senior faculty are being put under increasing pressure to teach, to publish and to generate income. Quite often a research student will be well down the list of priorities of senior faculty: this is a reality of contemporary life in the higher education sector in most countries. Again, the QAA document indicates that 'The entitlements and responsibilities of a research student undertaking a postgraduate research programme at the institution should be defined and communi-

cated clearly'. The fact that this has to be so clearly set out in the report, again, seems to imply that this fundamental element of good practice might often be overlooked.

The supervisor has a major role to play in the coaching guiding and mentoring of the postgraduate student. However, postgraduate students must take personal responsibility to ensure that they meet deadlines. At undergraduate level, everything has a time and place and one merely conforms to the timetable. By contrast, at postgraduate level, the student has to develop their own research timeframes, set their own deadlines and monitor their own progress. What is very clear to us it that the relative responsibilities of the student, the supervisor and the institution are often left unstated and implicit when they need to be made explicit. A failure to make these issues explicit - and to make them the basis of a formal document or learning contract - might be an unwise omission by any supervisor in 'the age of the litigious student'. Certainly, in the UK, the number of (failed or unhappy) PhD students who seek to resolve their issues through the courts is increasing with several institutions having been the subject of legal action where it has been argued that they have shown an insufficient 'duty of care' to their students. Featuring of the front page of the Times Higher educational Supplement in the UK for an infraction such as this does little for the University brand at a time when league tables and public image are much in the mind of vice chancellors.

Some postgraduate students expect their supervisors to supervise the research project, while it actually is their own responsibility to do so (Davis, 2000). A central task of all examiners is to test that the thesis is the students 'own work' and not the work of the supervisor. Though clearly, with weaker students there is always a tendency as a supervisor to over supervise when a more sensible option might be to counsel the student to discontinue their studies. Supervisors are mentors whose main duties are to guide students in intellectual matters, namely the appropriateness of their research design, the validity of their research problem, the quality and progress of their literature sur-

vey, the development of an appropriate theoretical framework for interpreting the results of their research, how to deal with unanticipated problems and the overall production of the written output. Generally, a good supervisor will pay as much attention to a student's research program as the student does but while the supervisor is responsible for guiding the student, it is clearly the student's responsibility to manage their project.

Postgraduate study by dissertation is often a lonely undertaking, unless the researcher makes a conscious effort to identify fellow researchers in her/his discipline and forms a mutual-support community of learning with them. It is in this area of networking, that the supervisor should be directing their students towards good conferences in their fields and identifying the lead researchers in particular fields as it is often people drawn from these networks who will be called upon the examine the thesis. Discussion forums and mailing lists on the Internet enable students to form such communities of learning with fellow researchers regardless of where they live.

Lack of project management skills

Doctoral research students are sometimes snowed under with work because they are not good project managers: this is often because the student has been insufficiently precise in how they have scoped their project. The student does not always have the capabilities to be a good administrator. The role of administrator involves the management of a wide range of activities from managing data collection activity, archiving material, organising interviews, identifying key milestones and ensuring that they achieve them.

Davis (2000) supports this by stating that they should take control of the management of their dissertation process: indeed, if the research student is to become an accomplished researcher, this is a skill that they well have to learn. While the question of skills development has been addressed at undergraduate level, it has not been addressed at doctoral level. In addition to producing knowledge, researchers should

also be able to demonstrate that they have required research and research management skills. Some students forget that they should also manage the 'productivity gap' and have ideas on how to manage the problems they will experience.

A student should also be able to manage source documentation that he/she is using. Project management is a skill taught to almost all IT students. Students, however, do not realise that the dissertation is a project; hence, they do not apply the time management and contingency-planning skills learnt at undergraduate level. Whenever they reach a barrier or encounter a problem, many students are unable to cope because they did not plan adequately in advance and develop contingencies at the same time.

Kearsley (1998) argues that students are not getting enough time with their supervisors because the supervisors are overworked and there is an acute shortage of qualified supervisors. It costs the student time and money to see the supervisor regularly. However, it might not be viable for both parties to meet one another face-to-face too many times for consultation sessions, especially if the student has other commitments such as a permanent job. Historically, it was a way to get interaction going and this was accepted as the norm.

However, things have changed with access to e-Mail and video-conferencing. Students need regular contact with their supervisor and the use of electronic media could form part of the solution. However, some students lapse into periods of inactivity. Students who put their studies on the back burner struggle to get the pot on the boil again. Golde & Dore (2001) argue that many students do not clearly understand what doctoral study entails, how the process works and how to navigate it effectively and how time-off aggravates the situation. When a student falls into a lull, it takes a great supervisor to help him/her get out of it and stay focussed. Many doctoral theses are abandoned due to “work pressure” when a consistent three hours a week would have been adequate to keep the project momentum to an acceptable level. Golde & Dore (2001) note that 23% of the students

said that they changed their decision about their postgraduate studies while they took time off before the studies. More than 30% of the students regretted that they did not take time off before their studies. Nearly 90% of the students will not take time off during their studies if they had to do their postgraduate studies again.

A student needs to attend to certain aspects of her/his study in good time. Many students are poor in estimating the amount of time required for particular tasks. Some students think that they can take as long as they want to – e.g. taking more than ten years to finish a dissertation. However, in the UK there is a concerted effort now taking place to ensure that fulltime students complete in fewer than four years, and that part-time students complete in around six to seven years. Whether this focus on completing within time is successful remains to be seen.

The 'long gestation PhD' is a problem for both examiners and supervisors. After ten years your supervisor will have become interested in new problems in your discipline (and may even have retired) while the research question on which the thesis was based will, no doubt, have been answered by someone else or no longer be a focus of discourse and debate in your fields. However, if a student has worked consistently and the project is set to take more than three years, s/he should request that supervisor gives better support. Some supervisors have an outdated approach and expect the student to first read for two years before embarking on writing: ideally, the student should be scanning the databases for new articles and publications right up until final draft stage. Most successful doctoral candidates start the overall planning of their project as soon as they start their literature survey. However, given the mentor-mentee/ master-student power structure ethos that surrounds the PhD, many students who should be questioning their supervisor's methods and supervisory skills, are often reticent to do so.

Not Finding the 'Right' Supervisor

Finding the 'right' supervisor is a negotiated process. As a customer of a higher educational institution, a prospective student has the right to select a supervisor with a good supervision track record, provided that the supervisor is satisfied with the applicant's academic track record and provided that the supervisor has the time to take on the student Prospective students should consult the other 'clients' of the department before they decide on a supervisor. At some institutions departments are managed in such a way that bureaucratic procedures are used to allocate supervisors (Davis (2000)).

Unless you consider the reputation of the institution to be more important than the reputation of your supervisor, try to avoid studying at an institution where you are disempowered in important matters such as negotiating with a prospective supervisor. Many students who have ended up with supervisors with whom they cannot establish a meeting of minds, end up never receiving proper advice on their dissertation and thereafter make the mistake of just accepting such bad supervision (Arenson (2001)). Some students then make the mistake of rather keeping quiet and trying to finish the dissertation on their own. If the student and the supervisor do not get along, the head of department or programme coordinator should step in and help resolve the problem. In some UK institutions, annual monitoring and feedback systems have been put in place in which a 'neutral' member of staff (i.e. perhaps the head of the doctoral programme who is not supervising a particular student) will contact each member of the programme for a discussion of their progress in which specific questions will be asked about the frequency and effectiveness of supervision. This provides the student with an opportunity to raise their concerns with a senior member of staff who might intercede on their behalf.

Due to the commoditisation of higher education worldwide, budget constraints require that postgraduate supervisors are also involved in undergraduate teaching, which makes it increasingly difficult to find committed supervisors who will have enough time to over-

see postgraduate research. This means that a prospective student should determine which supervisor's research expertise coincides with the area of research that the student wishes to pursue. They should also find out how many other doctoral candidates the person is supervising. While there are differences of opinion on the maximum number of students a supervisor should have three to four seems the norm while anything over six should indicate to the prospective student that the supervisor is already overloaded. As a rule of thumb, an overloaded supervisor, even though well-intentioned, is unlikely to be an effective supervisor.

Utilising Electronic Resources from the Outset

New students do not always know which resources are available and how to use the ones at their disposal – such resources include electronic interlending library databases that would enable you to borrow books from off-campus libraries via your local library, searchable databases of resources available on campus, or direct access to e-journals. Subject librarians and other senior students will usually be able to assist newcomers in acquiring the required research skills.

The student also makes a mistake by thinking that the dissertation is the only real-world task they need to do. It could be expected from them to do presentations, publish in journals, etc. Students fail to see their supervisor is a resource. Instead, many students depend on the WWW as source of information, but fail to realise that huge quantities of disinformation, misinformation and poorly written works exist online.

Poor Management of Research Documentation

The poor control of documentation can seriously hinder doctoral research. This happens when postgraduate students do not structure their studies properly. A badly structured dissertation and supporting documents will affect the final product. The student should have a proper documentation system that will help him/her and the supervisor

to manage the content of their endeavours. It is amazing how many students do not index references properly and then spend valuable weeks at the end of their studies trying to rediscover that lost reference.

Referencing software is essential and students should use a consistent referencing system such as Harvard and use resources such as those developed by the American Psychological Association which prescribe very tightly how material needs to be presented. Very often, students start reading to get a broad picture of their subject matter and write down quotations for later use. However, these quotations often only have the authors name and year of publication as students forget to write down the entire reference and end up producing inaccurate bibliographies that do not tie in with the text. Examiners can get very angry at badly presented work and so they should as this is an insult to their professional standing.

Students often do not know in which sequence to write the chapters of their dissertations. A dissertation essentially is an act of written communication and a narrative. This means that the writer should see the supervisor and examiners as knowledgeable co-communicators. While the thesis appears to be a document with a clear sequence, they are almost always written out of sequence. The first chapter, which introduces the topic to the reader and which gives a preview of what is to be encountered in subsequent chapters is often written last after the researcher knows what s/he had written in the rest of the dissertation. Students who fail to realise this, waste months trying to write the abstract, and end up having to rewrite the introductory chapter in any case. One does not write a dissertation from a to z.

Well-written dissertations are built organically rather than written sequentially. While working on one section, a good student might gain a new insight from his/her continual scanning of the literature and will adjust another section of the dissertation accordingly. The literature survey chapters are often written in two phases, an initial phase where you determine what is current in your field of study and a subsequent

phase where you do a critical assessment of theories put forward to account for particular problems in your field.

A common fault with theses is that the literature review is presented as a catalogue of the literature. This is characteristic of a poor student as the examiner will be looking for a student who has developed their critical skills sufficiently to be able to synthesis the literature to expose and discuss the key themes. In doctoral research one has to interpret one's results within the framework of either an existing theoretical framework that you have critically assessed or within the framework of your own particular theory that you must contextualise within the broader framework of current theories in your discipline.

Because you have to follow an organic approach to writing your dissertation, be wary of a supervisor who thinks linearly and expects of you to complete one chapter at a time, and who will not permit you to subsequently edit and add to chapters which s/he has already signed off. Writing a PhD is an organic and iterative process and much of the final stage of the thesis will be concerned with 'knitting the thesis together' by ensuring that arguments and propositions in the earlier parts of the thesis are addressed and that your findings a discussed within the context of theory and the extant literature. Examiners are looking for cogent discussion and it is amazing how many students fail to interpret their findings adequately.

Many students do not make enough backups of their work, or they store information on media that is easily lost or inaccessible. Imagine you have used the computer of your girlfriend to write your dissertation. How accessible will your data be if you break up! Part of the documentation is to ensure that enough backup copies exist of the drafts of your dissertation because a computer can easily be stolen or data lost. The problem some postgraduate students have is that they do not build an asset base (Grover (2001)) of data. However, the converse also happens. Due to paranoia, some students over-backup, and have multiple copies and versions on hard disks, CD's and now on memory sticks. When they update on one medium, they often don't

update the others, and end up with several intrinsically different files with the same name. Sometimes they open an earlier version of work and save it over a more recent version. Learn to manage you media!

Some students make the mistake of not organising their studies in an orderly manner. To render a good thesis the student should remember that the thesis is a scholarly endeavour and should be supported by documentation. A mistake many students still make is to destroy documentation after they have earned their degree. The student should keep scarce references, questionnaires and interview schedules available for the purposes of an academic audit as part of the examination process.

Another problem can occur because of infrequent meetings with the supervisor. The student could make the mistake of cramming too much information into one session. On the other hand, the supervisor could also be under pressure and discuss too much in one session with the student. If you have a good supervisor, expect to do most of the talking, in the form of answers that you have to provide in response to critical questions. e-Mail can help to reduce the information overload between supervisor and postgraduate student, but don't expect your supervisor to respond to your e-mail messages right away.

Inadequate Quality Control

Students often mistakenly assume that the mythological unicorn "the perfect dissertation" really does exist. Because humans have different points of view, and because we consistently underestimate the complexities of the problems that we ourselves cause, perfect knowledge is an illusion. Many students are afraid to think qualitatively because they fear having to manifest originality. All research entails a leap of faith because all theories are belief systems that have to be critically assessed.

A lengthy dissertation does not necessarily determine intellectual boundaries. Quantity does not equate to quality. It is a mistake to think that a dissertation has to be a certain length. A dissertation has to be as

short as possible and as long as necessary. The length of a dissertation does not determine its quality, how one engages with one's topic does.

Some students and supervisors do not measure quality against standards that characterise a written scholarship. Some of these are that work should be based on expert findings reported in peer reviewed literature in the field, that research demonstrates the workings of a thorough, careful, critical and analytic mind, looking at the advantages and disadvantages of the argument and presenting one's findings in an orderly fashion.

Inadequate Status or Recognition

Doctoral research students sometimes feel that they are invisible ghosts roaming the campus, unrecognised by others. This is even worse if the doctorate is presented at a distance or if it proposes radical change to existing protocols that may be costly to implement, causing authorities to look at it with their eyes closed (Kearsley, (1998)). Another mistake is that some students expect too much after they have received the degree. Graduating is giving birth to ideas—ideas on a landscape of knowledge where only the fittest survive.

Students should realise that the thesis is their work, driven by their questions. The other problem is that the student forgets that the thesis is in the public domain and the real test of one's ideas comes when they are critically assessed in public. Students heave a huge sigh of relief at the end of the dissertation and expect to be considered specialists in the field and to be consulted on the subject matter. However, post dissertation research is what gets recognition. Many graduates, especially those outside academia, fade into obscurity because they do not pursue further research in the field, because they do not publish, because they do not present at conferences, and because they do not network with other researchers in the field and. To gain recognition for one's work, one has to be visible. Use it or lose it. While peer respect is the greatest accolade an academic can achieve, it is difficult both to win it and sustain it.

Unable to Cope with Postgraduate Stress

Aronson (2001) notes that students need emotional support to cope with study-related stress. Postgraduate stress is a reality which students and faculty have to cope with. Sometimes students feel that they do not need any assistance in this respect. Many students do not realise that they will spend about twenty percent of their time when they are young on postgraduate studies while their friends earn money and acquire all kinds of material benefits. Students also must be willing to have their ideas criticised without feeling that they are under attack. While supervisors will be critical, it is what they are there for; they should have sufficiently developed inter-personal skills to ensure that their comments to students are constructive and not destructive. The role of the supervisor is to develop talent and not destroy it. Students, however, must acknowledge that no one's ideas - even theirs - are perfect and that they might sometimes have to face comments that they do not want to hear (Golde, (2001)). One way of coping with stress is to associate with others who are successfully coping with similar pressures. Students who have proceeded further along the track without having derailed are a good source of advice and consolation.

The Need to Set Time Aside for Oneself, Family and Friends

Humans essentially are gregarious beings who need to interact and bond with family members, friends and relatives. It is a serious error to neglect one's leisure time requirements and one's family. New knowledge can only be committed to one's long-term memory during sleep and recreation while you are not focusing on your research. Allocating time for oneself forms part of working smarter instead of working longer. Students who do not allow time for themselves with their family and friends invariably experience the law of diminishing returns—the longer they work, the less they get done.

Endpoint

In supervising a PhD a supervisor can face the full range of emotions from deep concern and anxiety as the student misses the point yet again through to elation as the chair of the viva committee tells the student 'congratulations you have got it'. As experienced supervisors and examiners, we have both faced these emotions. But, the PhD and the institutional setting in which the student and the supervisor have to operate are changing. In earlier years, universities existed more as craft industries in which the master (the senior academic) had to endure very little scrutiny and students were assumed to be quiescent and voiceless.

The world is changing and the spectre of managerialism is materially changing the terrain of the PhD. Students are now seen more as paying customers or as potential litigants and our assertion that the PhD was/is often very badly supervised seems to indicate that the craft mode of production had not delivered. Whether increased managerialism improves the quality of the PhD is a moot point. While actions are clearly needed to counter the inadequacies of the past, some would argue that over-engineered managerial solutions might be even more harmful.

We have identified two key issues that supervisors and prospective students need to bear in mind. First, the decision to register for a PhD and the decision to take on a research student are both non-trivial decisions - they are major commitments on both sides and commitments that can bind both parties for several years. Increasingly, a failure here might end up in court. Second, students are well advised only to countenance registering for a PhD within an institution that is committed to research and which provides an environment where the supervisor-student relationship can flourish. Those institutions that see the PhD - and increasingly the DBA - as a way of making money should be avoided at all costs.

Essentially, we see a successful PhD emerging out of a triadic relationship between student, supervisor and institution. Unfortunately,

the way in which this triadic relationship can be made to work more effectively is not well known and is, perhaps, an area where there should be more cross-national comparative work undertaken so that better models and frameworks for supervising and mentoring the senior faculty of tomorrow can be developed.

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[1] *Decision Line* is a scholarly academic journal.

Authors' Contact Details

Sam Lubbe (slubbe@ukzna.c.za)
School of Information Systems & Technology
University of KwaZulu-Natal, Durban, South Africa

Les Worrall (l.worrall@wbs.wlv.ac.uk)
Wolverhampton Business School, England

Rembrandt Klopper (rklopper@iafrica.com / rklopper@gmail.com)

Department of Communication Science

University of Zululand, P.O. Box 1, Gillitts, 3603, South Africa