Doctoral Discourses in South Africa

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In the South African context, three doctoral discourses are heard, each with their own assumptions about the purpose of doctoral education and the kinds of people who undertake doctoral study, and with their own implications for the practice of doctoral education. Two of the three discourses are familiar and well documented in the local and international literature. The third is an emerging discourse identified in the course of a qualitative study of four doctoral programmes at three South African universities. This paper unpacks these discourses, examining tensions that arise between them. I argue that all three discourses contribute useful perspectives to our national understanding of doctoral education, and I discuss some implications for the practice and research of doctoral education.

Keywords: doctoral education, postgraduate education, graduate studies, doctoral studies

Introduction

One doctoral supervisor, at a South African university, says:

> *We don't believe there are that many people in this country who can write doctorates.*

While another is of the opinion that:

> *They need encouragement. You need to encourage them and say, 'Look, you have the potential, you can do it, go ahead.' Unfortunately, our education system in this country hasn't been very accommodating, you know. It was a weeding out process, instead of a process that says, 'Look, go ahead and start developing.'*

These very different views of PhD students originate in different understandings of the PhD and highlight the contestation that makes it difficult to improve doctoral education and increase the number of doctoral graduates in South Africa.

This paper presents an analysis of the discourses surrounding doctoral education that emerged from an empirical study of established doctoral programmes in South Africa. Three discourses were identified, two of which are familiar and well documented in the local and international literature, and the third an emerging discourse that appears more closely related to local conditions. Each discourse makes assumptions about the purpose of doctoral education and the kinds of people who undertake doctoral study, and has implications for the practice of doctoral education.

This paper (1) presents evidence of these three doctoral discourses in the South African context; (2) examines some tensions that arise between them; and (3) discusses some of the implications for the practice and research of doctoral education. I argue that all three discourses contribute useful perspectives to our national understanding of doctoral education.

Background to the study

This paper results from a qualitative study of doctoral education in South Africa which examined the practice of doctoral education in four academic units at three research universities (one each at the University of Cape Town and the University of KwaZulu-Natal and two at the University of the Witwatersrand). The units were selected on the basis of having successful and well-established doctoral programmes. Three of the units were traditional academic departments or schools and the fourth was a graduate school with a more interdisciplinary approach. Several "innovative" doctoral programmes were considered for inclusion in the study, but rejected, as they could not be considered well established. In order to get a view across disciplines, theoretical replication was employed, based on Becher and Trowler's (2001) classification of

disciplinary knowledge as soft or hard (the degree to which there is an established paradigm) and pure or applied (the extent to which knowledge is applied). More than one hundred documents were examined, 26 supervisors and 38 students were interviewed, and seminars were observed.

In the course of the study it became clear that there are three doctoral discourses that inform the ways in which doctoral education is practised in the four academic units and by the individual supervisors, including how to select students to participate, how to support them, how to improve throughput (ensuring they graduate, and in reasonable time), and how to ensure the quality of doctoral education.

The notion of discourse has a complex history. In this paper I use the term in Foucault's (1970, 1972, 1980) sense of social knowledge, or in Gee's sense of a "big D" Discourse which goes beyond "stretches of language" to include ways of thinking, using language, acting and interacting and using objects (Gee, 1999:17-19). Discourses include representations (including language), practices and institutions which reproduce and legitimize meaning. They are associated with specific ideas, attitudes, beliefs and practices, which define the limits of the thoughts and practices that are admissible, and hence construct worlds and subjects. As a result, my analysis is of texts, practices and the views that individuals express – all being manifestations of such discourses.

Three doctoral discourses

The scholarly discourse

The first doctoral discourse reflects the traditional understanding of the doctorate: that it involves *doing research* to produce knowledge and serves to establish one as a scholar. The purpose of the PhD is to generate knowledge and, in the process, to confirm that the individual has attained a level of scholarship rather than learning to do research. This scholarly discourse is found in national and institutional policy, and was voiced by supervisors in my study.

The new Higher Education Qualifications Framework (HEQF) defines the PhD as a research degree, the goal of which is "to demonstrate high-level research capability and make a significant and original academic contribution at the frontiers of a discipline or field" (DoE, 2007:29), while the master's degree is to "educate and train researchers" (DoE, 2007:27). The postgraduate handbook for the Faculty of Engineering and the Built Environment at the University of the Witwatersrand requires the following of the PhD:

> *At the close of the period for research and after consultation with the appointed supervisor, a candidate will be expected to submit, with the supervisor's approval, a thesis for examination. The thesis must constitute a substantial contribution to the advancement of knowledge in the subject chosen ... (Wits, 2008:5).*

There is a "period for research" rather than for training or development, and the result is a "substantial contribution to the advancement of knowledge". At the master's level one is trained to do research, while at the doctoral level one demonstrates the capacity to do research.

This discourse was common among supervisors in my study who viewed the master's degree as the appropriate place to learn research skills and to gain a solid grounding in the discipline. When asked about the need for research training at PhD level, supervisors responded that "they have done that". Supervisors expect doctoral students to be "independent and self-directed"; they "should demonstrate the ability to do independent work" and "the ability to acquire knowledge on your own". For these supervisors, a doctoral person should be "somebody who is clearly research material, as we put it".

This understanding of the PhD, as research undertaken by an independent or autonomous scholar, is widely recognised in the literature (Johnson, Lee & Green, 2000; Lee & Williams, 1999; Tennant, 2004). The PhD is about demonstrating one's ability to do research and the person undertaking doctoral studies is assumed to already have research skills, to be familiar with key results or theories, relevant epistemologies and the research tools of the discipline. In their critique of traditional doctoral education, described as the "pedagogy of indifference", Johnson *et al.* (2000:138) explain how doctoral students at

Oxford were required to "reveal themselves as 'always-already' having the capacities for which they were to be credentialed at the end of the PhD process" and "to demonstrate that they could work on their own without supervision".

The scholarly view of the doctorate originates in the early nineteenth-century reforms of German universities which repositioned the university teacher from one who was learned in a particular field, to one who was an active scholar (McClelland, 1980). Such scholarly work was almost exclusively situated in the lower faculty of philosophy, which included what would today be recognised as subjects in the sciences and the humanities. As a result, the Doctor of Philosophy became distinguished from the doctorates in law, medicine and theology by being awarded for original work, rather than for having mastered an existing body of knowledge (Jamieson & Naidoo, 2007). As a result, the roots of this scholarly discourse are firmly embedded in modernist, rational discourses of science (Craswell, 2007; McClelland, 1980).

The scholarly discourse supports the view that doctoral students are planning scholarly careers. Supervisors who adopt this discourse say, "I'd probably have a bias towards thinking of them as future academics" and, if not, "why use three years of your life on a doctorate?" They struggle to conceive of other reasons for doctoral study:

> *[Name] is actually working, and he's got a good job. There's absolutely no reason for him to do this, except because he wants to. I'm not sure if it's because he wants the title, but that would be rather strange, because he's been going on for a number of years in great pain and suffering, so I think he's possibly thinking of an academic career. (Supervisor, Mathematics and Applied Mathematics)*

Concerns for doctoral education practice are how best to generate knowledge – how to identify an appropriate research question that is of interest to the individual and the discipline, and can be asked; what methods are available to answer that question and how to apply them; and how to report the results in a form acceptable to the discipline. Addressing throughput in doctoral education becomes a matter of effectively identifying those individuals who have the necessary research skills and disciplinary knowledge and are able to work independently, and then ensuring that they have the resources, including time and appropriate connections to the discipline, to pursue their research. The quality of doctoral education is addressed through examination procedures that ensure the work meets the required disciplinary norms.

The labour market discourse

The second doctoral discourse is the labour market discourse in which doctoral education produces human resources for the labour market of a knowledge economy. The purpose of the PhD is to develop highly skilled people who will find employment as academic staff, researchers and in other positions in industry and the public sector. The focus of doctoral education becomes training in research and other transferable skills, while the knowledge produced takes second place. This discourse is evident in South Africa at the level of national policy, and is acknowledged by supervisors.

About one third of the *South African National Research and Development Strategy* (DST, 2002) is devoted to the question of developing human resources in a market model of supply and demand for skills. In the Strategy the number of postgraduate degrees in science and technology is an indicator of future, but not of current, research and development capacity. This implies that doctoral students are being trained to do research, rather than being engaged in doing research – a view reinforced by doctoral theses not being included in measures of research output. The South African PhD Project seeks to increase the number of PhD graduates in South Africa in order to "address the local human capital requirements" because the current production of PhDs is "way below the number of doctoral graduates required to support a competitive knowledge-based economy" (NRF, 2008). From these and other documents it is clear that national policy makers are concerned with addressing a human resource problem and view the PhD as developing high-level skills, particularly in research.

Supervisors recognise this discourse, particularly because it has resulted in the PhD being a prerequisite for an academic career: "Job advertisements used to say, 'an MA is desirable', now they say, 'a doctorate is necessary.'" They also acknowledge that the PhD is sought after in other labour markets where "people are looking for highly-trained minds" and a range of transferable skills.

> *It's not just the physics you learn, it's the skills doing research and just thinking through quite a complicated problem …observing stuff and taking the data and producing some kind of model – which is really what a lot of financial analysts do. They take data that's a continuous stream and turn it into … a predictor of the future, I guess … So a lot of the skills are very similar, although there is some retraining that needs to be done. (Supervisor, Applied Mathematics)*

However, they are quick to point out that additional skills training should be "add-on aspects of the doctorate, rather than taking away from something of what is done in the doctorate now".

The labour market view of the doctorate is supported by discourses of instrumentalism and efficiency (Blume, 1986) and includes imperatives to increase the number and rate of production of doctoral graduates. In South Africa financial incentives are provided for institutions to meet a target 20% graduation rate for doctoral programmes (DoE, 2001). This discourse creates concerns for efficient supervision and promotes practices such as group supervision, cohort-based seminars and structured research timetables. This discourse also emphasises market responsiveness (Ball, 1998) and is concerned with the employability of graduates (Craswell, 2007). This is not new – the doctorate has always had something of a career focus, with the title "Doctor" originally referring to one who was licensed to teach (Noble, 1994; Tanner, Previté-Orton & Brooke, 1929).

The labour market discourse of career preparation promotes the idea that the doctorate is undertaken towards the beginning of one's career and terms like "junior scholars" (Golde & Dore, 2001) are used to describe doctoral students. The recent PhD Study by ASSAf (2010) calls for increased funding to facilitate full-time study. However, the majority of doctoral people in the cases I studied were older people, either established in university teaching positions or in careers in the public, private and NGO sectors, and many doctoral graduates have complex and changing patterns of employment and self-employment (Backhouse, 2008). The focus on younger doctoral people leads to the provision of skills training that is inappropriate for those in established careers and continues to position older people as exceptions and outsiders (Hewlett, 2006).

The labour market discourse incorporates explicit research training in doctoral education. In addition, the notion of career preparation leads to concerns to develop the full range of skills required for identified careers. A supervisor in my study explained that those who pursue academic careers "have to be trained both in research and into the other aspects of academia", such as teaching. Research careers require skills in sourcing funding, working in teams, managing projects and interacting with stakeholders, while careers in industry or the public sector require that graduates learn how to sell themselves in a competitive labour market. This has led to reform agendas for doctoral education which are "inexorably additive" (Bass, 2006:116), with ever-lengthening lists of training that ought to be included.

The labour market discourse creates concerns for the efficient supervision of students and meeting the expectations of their future employers. The focus is on encouraging young people to undertake doctoral study so that they have longer active research lives, resulting in greater return on investment. Quality is determined by market forces and other quality assurance mechanisms.

The on-going personal development discourse

Somewhere between revealing an independent scholar and training a skilled human resource is another discourse, that of developing a critical intellectual. This on-going personal development discourse positions doctoral education as a process of personal and professional development during which one engages with knowledge and learns to apprehend the world in new ways, with deeper, more extensive or more intricate understandings. The larger goal is to develop critical intellectuals who will make the world a better place. This discourse is strongly voiced by students; less often expressed by supervisors.

For many students in my study, the purpose of doctoral study is personal development. During the PhD one learns "how to think about the world" and by the end, they expect to occupy "a different headspace" which will enable them to work on more complex problems.

> *Once you have a PhD, you walk out at the end, you basically know how to do research. But I think it's more than that. It's how you apply your mind to issues, problems; how you learn from lessons of experience, best practices, apply, develop, you know. It's very good [for] problem solving, it's good*

> *for writing skills, it's good to address specific issues. Because we have a problem in government as well, people can't write, people don't know how to put statements on the table, they don't know how to engage. (Doctoral student, Public Management)*

Students appreciate that what they learn during doctoral studies will be used in their on-going careers, but they make it clear that what they learn goes beyond instrumentalist skills training, to a more holistic development of the person. They say, "I'm widening my conceptual view of the things that I already understood" and "you learn a lot about yourself". This discourse also resonates with the many personal reasons that people cite for doing a PhD, including that it fulfils early dreams and is a source of pride.

Supervisors say that the doctorate *develops people into* scholars and they try to facilitate that process. One, who explained that she "was a very poor student at school, but I developed very good meta-cognitive skills when I got to university … and I ended up being much more successful", works with doctoral students to make explicit the requirements of the PhD and to develop their meta-cognitive skills.

> *... that's what I emphasize with students, I emphasize their meta-cognitive skills more than intelligence. It's not to say that I don't think you need to be intelligent, but I just think that there are some very bright people who actually don't make it because of their poor meta-cognitive skills. (Supervisor, Public Management)*

A woman who "considered bailing out" of her PhD when she had children because she "didn't really have a role model" is more supportive towards the women she supervises, sharing "some of my own experiences".

The doctorate as on-going personal development is supported by discourses of equity, social justice and "embodied subjectivity" which challenges the "fiction of the disembodied scholar … unlocated in the specific historical experience and social position of a sexed, classed and racially marked body" (Waldby, 1995:17). The emphasis is on individual identities and choices as reflected in the decisions of doctoral students who select supervisors based on "growth, recognition, affirmation" and "someone who would allow us to have the kind of experience that we believed would contribute to our growth and development" (Harrison, McKenna & Searle, 2010:182,186). McAlpine and Amundsen (2007:23) suggest that the "developmental perspective situates the doctorate as part of a life-long journey", and metaphors of journeys abound in the student interviews in my study. Students say, "It is a very personal journey" and "I find it like, this enlightening journey, and I'm very excited about it". Their frequent use of journey metaphors suggests that the idea of doctoral studies as part of a life journey resonates strongly with their experiences.

This discourse is less prescriptive than the scholarly discourse about who might undertake doctoral studies. Students are not expected to already have the characteristics of a scholar. Supervisors expect some level of independence, but not in a "leave a person on their own and don't give them any help and support, kind of way". For these supervisors independence is an outcome of the PhD, rather than a prerequisite: "I think it's building them as a scholar, so that *when they finish* they are able to operate more independently" [my emphasis]. Likewise, students are not expected to already have research skills or a thorough grounding in a particular discipline. Many of the students in my study had crossed disciplines, for example, moving from undergraduate degrees in science or engineering into doctorates in public management, or worked across multiple disciplines, for example, a woman who researched language, translation and musicology.

In South Africa, people who enrol for PhDs are seldom starting out on their careers. In public management they come from established careers in medicine, agriculture, education and science, looking for a management qualification. Some of them are "big people in their fields, they've got a lot of expertise … they are big, they're top of their field". A supervisor in civil engineering reported a discussion with "high profile members of industry" who said of their staff, "if they show a lot of potential, they will send them somewhere to do post-graduate research, but they're not looking for people coming in with a post-graduate qualification". In these applied disciplines, the PhD is another step in a career, into more senior roles. However, even in the pure disciplines, many doctoral students were mid-career academics from local and other African universities, who had not had the opportunity to complete a doctorate earlier in their lives. These doctoral students "sometimes have ten years in between this and their previous degrees."

The on-going personal development discourse acknowledges and values the complex histories of different doctoral people and the challenges they face. A supervisor explains that:

> *... post-grads throughout the university, are predominantly non-first-language-English speakers of English, and yet are compelled to write a thesis in English ... People always think that will be a matter of correcting their concords and their prepositions ... but the most serious problem is that they are unable to do justice to their own meanings. (Supervisor, English Studies)*

Another supervisor gives this example: "We have generals from the Defence Force, coming here to do PhDs and they're coming from a completely different discourse, and we're asking them to think in completely different ways, to write in different ways." As a result, there is a focus on how to transition people into the doctoral programme.

Concerns are to construct a highly individual experience organised around the unique development needs of each person. This might include prescribed readings, attendance at seminars, attendance at conferences, skills training, and exposure to aspects of academic life. Cohort-based programmes and seminars which address gaps in disciplinary and research knowledge, also have a place, when relevant to the student's developmental needs. Quality is ensured by providing appropriate support and allowing individuals to develop at their own pace, without pressure to adhere to an externally imposed timetable.

Comparing the three understandings

I have described three doctoral discourses which are present in the South African context. Table 1 summarises key features of the three.

Table 1: Comparing doctoral discourses in South Africa

	Scholarly	Labour market	Personal development
Product or output of doctoral education	New knowledge An independent, rational scholar	A highly-trained human resource Knowledge for the knowledge economy	A critical intellectual New knowledge
Assumptions	Only a certain type of person is "research material" PhD people already have research skills Knowledge (of a certain kind) is valuable	People have identifiable careers which need identifiable skills The PhD comes near the beginning of a career Knowledge must be useful or profitable	All people have the potential to develop intellectually The PhD occurs at various points in people's careers Personal development contributes to social development
Discourses	Modernist Scientific Rational man	Liberal Market-driven Knowledge economy	Critical Social responsibility Embodied subjectivity
Concerns	Identifying new knowledge Identifying people who are "research material" Ensuring originality and independence	Identifying likely careers Identifying necessary skills Accreditation and certification Efficiency	Facilitating personal development Allowing creative engagement with knowledge

There is some resonance between the three discourses. All agree that the PhD results in knowledge (the product) and a particular kind of graduate (the person), and they agree that the graduate should possess a wide range of skills, both generic and specific to the kind of research being undertaken. However, the three different discourses also result in a range of tensions that become evident in the practice of doctoral education.

Tensions between the discourses

As we have seen, the three discourses give rise to different understandings of the purpose of doctoral study and, as a result, of the people who do PhDs and the best ways to practice doctoral education.

People

The scholarly discourse assumes that only those who are "research material" can be successful in doctoral studies. Such people are assumed to be already competent researchers who will be expected to do independent research and, in the process, reveal themselves as scholars. The centrality of independence and autonomy in doctoral education can be traced back to the notion of the "Man of Reason" and the line of Western philosophical thought that led in the seventeenth century to Reason becoming "not just a distinguishing characteristic of mankind but … a distinctive way of thinking … a precisely ordered mode of abstract thought" (Johnson *et al*., 2000:139). Feminist critiques of Reason associate it with the independent masculine as opposed to the dependent feminine and this suggests that the identity of the autonomous scholar might be difficult for many people to aspire to and hence run counter to national goals for equity and redress.

> *That the ideal of the autonomous self is unproblematic [in doctoral education] testifies to its centrality to the history of the PhD, at the same time as it indicates how powerfully but silently its assumptions about who has the right to regard themselves as ready to take on the mantle of the subject of Knowledge, the 'one who knows', continue to operate unscrutinised (Johnson* et al*., 2000:143).*

By contrast, the on-going personal development discourse is inclusive; it acknowledges that people begin doctoral studies with different knowledge and abilities and emphasises that they will become scholars through the process; they do not need to already possess the qualities of a scholar.

The on-going personal development discourse encourages people at varying ages and career stages to consider doctoral studies. This is appropriate in the South African context where most people undertake doctorates later in their careers. But such inclusiveness is at odds with the labour market discourse, with its focus on career preparation. The efficient supply of human resources to the labour market emphasises the need for young people to undertake doctoral education at the start of their careers. However, a focus on young people and their needs might be at odds with the needs of older doctoral students.

Practice

The labour market discourse supports efficient practices such as cohorts learning in step and measures to control the duration of studies. It advocates increased funding of doctoral students to facilitate full-time doctoral study. The labour market efficiency imperatives can also be at odds with requirements for quality. There are reports of doctoral programmes that were:

> *... characterised by structured recruitment, group supervision, structured regular contact sessions, specified research topics, pre-selected research methodologies and strict timelines. These resulted in commendable throughput rates but, at the end of the process, many students were unable to work independently and did not develop adequately as critical thinkers, researchers or scholars (Botha, 2010:69).*

Structured programmes might also be in conflict with the on-going personal development discourse. McCormack (2004) tells the story of someone who conceived of "research as a process of personal

transformation" and ran into difficulties with the university's timeline for her studies. Rather than work to the imposed timeline she "reconstructed her postgraduate experience to realign with her conception of it" and completed after seven years. And yet such self-determination must be recognised, in the South African context, as a luxury that few can afford.

In the scholarly discourse, representatives of the discipline act as gate-keepers, regulating what research questions can be asked, the allowed research methodologies and making judgements of the quality of the work. Where doctoral programmes in South Africa have been changed to make research more accessible and challenge notions of disadvantage and advantage, they have drawn criticism for doing formulaic research and "lowering standards" (Samuel, 2000). Thus, there are also tensions between conceptions of quality, as defined by a long tradition and accepted practice of scientific knowledge-making, and quality conceived of as market responsiveness or effective personal development.

Concluding remarks

This paper has highlighted three doctoral discourses which are current in South Africa. The scholarly discourse views the doctorate as doing research and, in the process, revealing a scholar. The labour market discourse is of the doctorate as developing highly skilled human resources for specialist careers in the knowledge economy. A third emerging discourse is of the doctorate as an engagement with knowledge generation in the interests of on-going professional and personal development.

There are tensions between these discourses resulting from the assumptions they make about the purpose of doctoral education, and the ways in which they position doctoral people, as well as the resultant approaches to practice. The on-going personal development discourse is more supportive of national goals for equity and redress in South Africa and better supports the kind of people who currently undertake doctoral studies. However, limited resources and the urgent need for more doctoral graduates force our attention to the labour market concerns for efficiency and effectiveness, and the scholarly concern with autonomous knowledge production is still a key part of how scientific knowledge-making is understood internationally. All three discourses thus contribute important understandings of doctoral education and the tensions between them ensure that doctoral education develops to meet the imperatives of access, efficiency and quality.

Research into doctoral education is generally framed within one or other of these discourses and the assumptions that underpin these framings inevitably affect the way in which research is carried out as well as the results. An explicit positioning of research projects within or between these discourses will result in greater clarity and will facilitate meaningful discussions about research results.

This paper has presented what Gee terms a "Discourse grid"; a map of the discourses of doctoral education. Characteristic of such a grid is that there are complex relationships between the discourses and that the boundaries between discourses are ill-defined and moveable (Gee, 1999:22-23). Intersections, overlaps and areas of fuzziness can be observed between the discourses which I described. A more explicit discussion of doctoral discourses will also help to develop common understandings, to track changes and to refine this map over time.

References

ASSAf 2010. *The PHD Study: An evidence-based study on how to meet the demands for high-level skills in an emerging economy*. Pretoria: Academy of Science of South Africa (ASSAf).

Backhouse J 2008. *African paths to and from the PhD and the implications for developing academic practice.* Preparing for Academic Practice: Disciplinary Perspectives, 8-9 April 2008. University of Oxford.

Ball SJ 1998. Big policies/small world: An introduction to international perspectives in education policy. *Comparative Education*, **34(2)**:119-130.

Bass H 2006. Developing scholars and professionals: The case of mathematics. In: Golde C & Walker G (eds). *Envisioning the future of doctoral education: Preparing stewards of the discipline* – Carnegie essays on the doctorate. San Francisco: Jossey-Bass.

Becher T & Trowler PR 2001. *Academic tribes and territories.* Buckingham: The Society for Research into Higher Education.

Blume S 1986. The development and current dilemmas of postgraduate education. *European Journal of Education*, **21(3)**:217-222.

Botha N 2010. Practices in postgraduate research supervision: From apprentice to scholar. *Acta Academica Supplementum*, **2010(1)**:57-74.

Craswell G 2007. Deconstructing the skills training debate in doctoral education. *Higher Education Research & Development*, **26(4)**:377-391.

DoE 2001. National plan for higher education. *Government Gazette* No 22138, Notice Number 230. Pretoria: Department of Education (DoE).

DoE 2007. The higher education qualifications framework (HEQF). *Government Gazette*, Vol. 508:3-29. Pretoria: Department of Education (DoE).

DST 2002. *South Africa's national research and development strategy.* Pretoria: Department of Science and Technology (DST).

Foucault M 1970. *The order of things: An archaeology of the human sciences*. London: Tavistock.

Foucault M 1972. *The archaeology of knowledge*. London: Tavistock.

Foucault M 1980. *Power/knowledge: Selected interviews and other writings 1972-1977*. Brighton: Harvester Press.

Gee JP 1999. *Discourse analysis: Theory and method*. London: Routledge.

Golde CM & Dore TM 2001. *At cross purposes: What the experiences of doctoral students reveal about doctoral education.* Philadelphia: The Pew Charitable Trusts.

Harrison L, McKenna S & Searle R 2010. 'I won't be squeezed into someone else's frame': Stories of supervisor selection. *Acta Academica Supplementum*, **2010(1)**:175-200.

Hewlett L 2006. Validating a pre-formed identity or unsettling prior experience? Experiences of working students entering studies in management. *Perspectives in Education*, **24**(3 Higher Education and the World of Work: Special Issue):109-120.

Jamieson I & Naidoo R 2007. University positioning and changing patterns of doctoral study: The case of the University of Bath. *European Journal of Education*, **42(3)**:363-373.

Johnson L, Lee A & Green B 2000. The PhD and the autonomous self: Gender, rationality and postgraduate pedagogy. *Studies in Higher Education*, **25(2)**:135-147.

Lee A & Williams C 1999. Forged in fire: Narratives of trauma in PhD supervision pedagogy. *Southern Review*, **32(1)**:6-26.

McAlpine L & Amundsen C 2007. Academic communities and developing identity: The doctoral student journey. In: PB Richards (ed). *Global Issues in Higher Education*. New York: Nova Science Publishers.

McClelland CE 1980. *State, society and university in Germany 1700-1914.* Cambridge: Cambridge University Press.

McCormack C 2004. Tensions between student and institutional conceptions of postgraduate research. *Studies in Higher Education*, **29(3)**:319-334.

Noble KA 1994. *Changing doctoral degrees: An international perspective.* Buckingham: Society for Research into Higher Education and Open University Press.

NRF 2008. *South African PhD project* (brochure). Pretoria: National Research Foundation.

Samuel M 2000. About tarbrushing and feathering: Developing institutional capacity for postgraduate research within a "historically disadvantaged institution". *South African Journal of Higher Education*, **14(3)**:63-76.

Tanner TR, Previté-Orton CW & Brooke ZN (eds) 1929. *The Cambridge medieval history vol. VI The victory of the papacy.* London: Cambridge University Press.

Tennant M 2004. Doctoring the knowledge worker. *Studies in Continuing Education*, **26(3)**:431-441.

Waldby C 1995. Feminism and method. In: B Caine & R Pringle (eds). *Transitions: New Australian feminisms.* Sydney: Allen and Unwin.

Wits 2008. *Postgraduate handbook Faculty of Engineering and the Built Environment*. Johannesburg: University of the Witwatersrand.