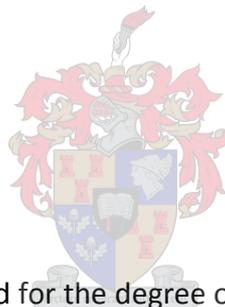


# **TOWARDS EXPLAINING DOCTORAL SUCCESS AT STELLENBOSCH UNIVERSITY**

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Dissertation presented for the degree of Master of Philosophy  
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Faculty of Education  
at  
**Stellenbosch University**

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)      **2013**

**DECLARATION**

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

Signature:.....

Date:.....

## **ABSTRACT**

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Limited research in South Africa has been conducted on factors contributing to doctoral success, particularly on how doctoral candidates and graduates experience their studies and the transformation of candidates that can be associated with doctoral studies. This lack of information pertains to the successful completion of a doctoral study within a minimum period of time. It is difficult to predict who will eventually successfully complete their doctoral studies if the prediction is merely based on the results of previous qualifications. Such previous achievements are often insufficient and inadequate to ensure the successful completion of a doctoral study.

Knowledge institutions such as universities seem not to pay adequate attention to the transformation of the person of the doctoral candidate and his or her becoming an independent researcher. Often, a narrow concept of the intellect of doctoral candidates is over-emphasised. Knowing, although limited, is transformative as it can often change who candidates are (or become) as graduates. Such transformation and the idea of a doctoral identity has rarely been the focus in doctoral education, as epistemological gain is regarded as being more important.

The aim of this study was to establish a basic understanding of doctoral success at Stellenbosch University, mainly directed at exploring the challenges faced by doctoral candidates and thereby possibly contributing to the future support of doctoral candidates at the institution. By using an interpretive research paradigm and narrative analysis, a number of characteristics were identified as being useful by contributing to a clearer theoretical and conceptual understanding of doctoral success at Stellenbosch University. In the study a number of factors that facilitated doctoral success were also identified, and factors contributing to such success as indicated by participants themselves were defined. A conceptual framework of understanding that may underscore and justify strategies and actions promoting doctoral success are suggested in the study.

## OPSOMMING

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Daar bestaan tans beperkte navorsing in Suid-Afrika oor faktore wat tot die sukses van doktrale studies bydra, veral ten opsigte van hoe doktrale kandidate en gegradueerdes hulle studies ervaar en die transformasie van kandidate wat deur doktrale studies meegebring word. Hierdie gebrek aan inligting het 'n impak op die suksesvolle voltooiing al dan nie van 'n doktrale studie binne 'n minimum tydperk. Dit is moeilik om te voorspel wie uiteindelik hulle doktrale studies suksesvol sal voltooi as die voorspelling bloot op die resultate van vorige kwalifikasies gegrond is. Sodanige vorige prestasies is dikwels onvoldoende en ontoereikend om te verseker dat 'n doktrale studie suksesvol voltooi sal word.

Kennisinstellings soos universiteite gee skynbaar nie voldoende aandag aan die transformasie van die doktrale kandidaat as persoon of aan die proses waardeur hy of sy gaan om 'n onafhanklike navorser te word nie. Dikwels word 'n eng konsep van die intelligensie van doktrale kandidate oorbeklemtoon. Kennis, selfs al is dit beperk, is transformerend van aard omdat dit dikwels kan verander wie die kandidate as gegradueerdes is (of word). Sodanige transformasie en die konsep van 'n doktrale identiteit was nog selde die fokuspunt in doktrale studie omdat epistemologiese voordele as belangriker beskou word.

Die doel van hierdie studie, wat hoofsaaklik gerig was op 'n ondersoek van die uitdagings wat doktrale kandidate moet aanspreek, was om 'n basiese begrip van doktrale sukses aan die Universiteit Stellenbosch te vestig. Dit was dus 'n poging om by te dra tot die toekomstige ondersteuning van doktrale kandidate aan hierdie instelling. Deur 'n interpretatiewe navorsingsparadigma en narratiewe ontleding te gebruik, is 'n aantal waardevolle eienskappe geïdentifiseer wat tot 'n duideliker teoretiese en konsepsuele begrip van doktrale sukses aan die Universiteit Stellenbosch kan bydra. In die studie is 'n aantal faktore geïdentifiseer wat doktrale sukses vergemaklik, terwyl 'n oorsig ook gegee word van faktore wat volgens die deelnemers aan die studie tot sukses sal bydra. Hierdie studie stel 'n konsepsuele begripsraamwerk voor wat strategieë en optrede wat doktrale sukses sal verhoog, ondersteun en regverdig.

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---

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- My son, reminding me of his imminent arrival by kicking me in the ribs when I was procrastinating or slacking.

**LIST OF ABBREVIATIONS**

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AARE	Australian Association for Research in Education
AI	Appreciative Inquiry
ASSAF	Academy of Science of South Africa
ASSAI	Academy of Science of South Africa
DST	Department of Science and Technology
HELTASA	Higher Education Learning and Teaching Association of South Africa
HERDSA	Higher Education Research and Development Society of Australia
HESA	Higher Education South Africa
HSRC	Human Sciences Research Council
NPHE	National Plan for Higher Education
NRF	National Research Foundation
NZARE	New Zealand Association for Research in Education
OSP	Overarching Strategic Plan
UK	United Kingdom
USA	United States of America

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## **CHAPTER 1: ORIENTATION TO THE STUDY**

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### **1.1. Introduction**

There appear to be three elements that are linked to the concept of the 'voice' of doctoral candidates: the epistemological voice, or a voice of knowing; the practical voice, or a voice of doing; and the ontological voice, or a voice of being and becoming (Batchelor, 2006; Barnett, 2009). However, much of the attention concerning doctoral success concentrates on epistemological issues of the doctoral process instead of putting the doctoral candidate first and looking at other aspects outside the intellectual advantage a doctoral study has to offer.

In this chapter I outline and motivate my study which explored doctoral success at Stellenbosch University. I also briefly focus on the main assumptions and limitations of the study, as well as on the ethical considerations that were taken into account. The overview that is provided of the qualitative results of my research in terms of the selected participants creates a backdrop to the context in which my study was conducted, including the sampling of participants and data analysis.

### **1.2. Motivation for the proposed research**

Limited research in South Africa currently exists on what contributes to doctoral success. This lack of information pertains to the successful completion of a doctoral study within the minimum period of time, how doctoral candidates and graduates experienced their studies, and what transformational elements can be associated with successful doctoral research. This transformative process involves both the candidate and the institution/university as key stakeholders. Knowing if doctoral candidates would be successful at the onset of doctoral studies would be useful as many parties are involved (e.g. the university, supervisor and the candidate) and all these stakeholders have a vested interest in such lengthy and intensive studies. Moreover, doctoral success as a concept has been receiving more attention recently as universities are pressed to produce more doctoral graduates due to the demands of the economy and changes in job markets.

When candidates enter universities they bring with them prior knowledge and experiences, as well as expectations about what studying at a university will be like. When these expectations are not met candidates may fail to complete their studies (Ulriksen, 2009, p. 517), which comes at great cost to the institutions where they are enrolled. Doctoral studies are expensive for all participants at this level of study. It is therefore of strategic importance that factors indicating success and completion be identified. The identification of such factors may make it possible to develop a framework aimed at facilitating doctoral candidate success. My study concentrated on interrelated aspects moving away from a singular focus on epistemological concerns of knowledge production. Ricoeur (1994, p. 181) suggests that persons should be valued more fully for who they are and their potential for becoming who they are than for what they have achieved.

The economic growth of a country can have an impact on the demands of doctoral studies and candidates. This is also the case in South Africa. Recent economic developments require an increase in doctoral graduates. At Stellenbosch University, reports regarding doctoral enrolments point to an increase in doctoral candidates per year, increasing from 18 candidates between 2007 and 2008 to 88 candidates between 2010 and 2011 (Stellenbosch University Division Institutional Research and Planning, 2010). In contrast to this substantial increase in enrolments, the number of doctoral graduates has only increased by 13.7%, as can be seen in Table 1.1 below.

Table 1.1: Doctoral degrees awarded according to faculty and year

<i>Faculty</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Arts and Social Sciences</i>	20	17	24	16	24	25	14	32	17	25	25
<i>Science</i>	12	19	20	41	26	28	27	33	38	39	50
<i>Education</i>	5	12	8	11	9	11	10	13	11	13	11
<i>Agrisciences</i>	7	13	6	7	13	16	11	13	12	14	17
<i>Law</i>	4	2	1	1		3		2	2	3	7
<i>Theology</i>	10	7	15	9	12	9	7	18	7	9	16
<i>Economic &amp; Management Sciences</i>	5	8	9	7	5	15	9	11	9	6	10
<i>Engineering</i>	12	17	19	9	15	9	16	16	10	17	22
<i>Health Sciences</i>	8	8	11	11	11	11	8	15	14	13	16
<b>TOTAAL/TOTAL</b>	83	103	113	112	115	127	102	153	120	139	174

Source: Stellenbosch University Division Institutional Research and Planning, 2010

The Overarching Strategic Plan (OSPSU, 2009) for Stellenbosch University foresees, inter alia, a growth of 5% per year in postgraduate candidate numbers at master's and doctoral levels.

This plan aims at steering the institution towards the achievement of a number of strategic goals by 2015 – including that 40% of the total Stellenbosch candidate cohort will be studying at the postgraduate level (OSPSU, 2009). This goal ties in with the vision of Stellenbosch University becoming as a research intensive institution in South Africa that is also internationally recognised. The growth in postgraduate enrolments is important not only in building the research image of the university, but also within the wider South African context, according to the South African Department of Science and Technology (DST) (Wingfield, 2010, p. 1). The realisation of such an increase in the number of postgraduate candidates may demand greater investments in postgraduate support programmes, such as skills development of candidates, skills development of postgraduate supervisors, a comprehensive postgraduate support platform and increased attention to postgraduate throughput and completion rates (Van Zyl, 2009).

#### **1.2.1. Doctoral restrictions**

Ulriksen (2009, p. 518) argues that studying is a socialisation process as graduates learn to think, comprehend and engage with their discipline in a specific way. Doctoral education is the first step towards the development of a professional scholarly or social identity (Austin & McDaniels 2006) where the graduate must learn to conduct the study in a way that is recognisable to others as a legitimate way of being a graduate in a specific discipline (Ulriksen, 2009, p. 518). Doctoral graduates are often unclear about what this process entails at the onset of their studies. They are unsure what is formally and informally required of them to obtain a doctoral degree, fit into the academic of their particular discipline, and what accomplishments are necessary in order to be successful in their studies (Campbell, Fuller & Patrick, 2005, p. 155). Also, doctoral studies do not necessarily pay enough attention to the (professional) development of candidates and evidence suggests that doctoral candidates experience tensions and challenges when integrating into or joining academic communities (McAlpine, Jazvac-Martek, & Hopwood, 2009, p. 97). Doctoral graduates may have incomplete understandings of academic life; experience mixed messages about the importance of their work, and may even be unsure if they can align their own values with those of the academy. They are often unaware of the changes they will go

through which may influence their being and which may eventually lead to an ontological transformation within themselves.

My study includes notions about ontology and identity. However, these concepts are social constructs and are therefore potentially controversial (Brubaker & Cooper, 2000). According to Räsänen and Korpiaho (2011), in identity work, the individual is the subject working on his/her or his own subjectivity. The concept of ontology is different from identity as the subject is not necessarily consciously aware of his or her own transformation.

Lovitts (2005), Barnacle (2005) and Baker and Pifer (2011) have pointed out common problems with which doctoral graduates struggle. According to Lovitts (2005), the transition to independent research is difficult for many graduates. Predicting who will eventually successfully complete their doctoral studies is difficult if merely based on the results of previous qualifications, even though candidates are typically admitted into doctoral studies on the basis of their undergraduate and/or previous postgraduate performances. However, such previous achievements are often insufficient and inadequate markers to predict which doctoral candidate will secure a successful completion. In addition, many doctoral candidates feel unprepared to make the transition from structured to independent work and might become academically and/or socially isolated (Barnacle, 2005). Trafford and Leshem (2009) mention the intellectual challenge as a 'threshold' that doctoral candidates have to cross, as they are expected to make an original contribution to knowledge (p. 305). This challenge may be exacerbated by a seeming lack of common and clear descriptors of what doctoral candidates have to do to produce acceptable work at this level (p.307). When graduates experience 'being stuck' when they seek to resolve a technical or conceptual aspect of research, they are unable to make progress and therefore may experience uncertainty about the identity of self and purpose (Meyer & Land, 2006, p. 22).

Kiley (2009) mentions a 'rite of passage' associated with the doctorate. This 'rite of passage' refers to challenges doctoral graduates experience, which may include developing new levels of thinking and researching (p. 293). When such challenges are overcome, candidates understand their learning and themselves and this is evident in their writing, presentation, discussion and even demeanour. Dealing with threshold concepts can be a challenging

experience for doctoral graduates as they have to transform their ways of viewing knowledge and themselves. These graduates not only have to learn the language of their subject area and of their research, but they also have to learn to 'act' with the rigour and conceptual understanding that is expected of them (Kiley, 2009, p. 293). Knowing is transformative as it can change who we are (Dall'Alba & Barnacle, 2007). Meyer and Land (2006) acknowledge these changes taking place within graduates. However, they are convinced that before graduates cross such thresholds, they undergo a form of transformation. They identify two important conditions: being 'stuck' and mimicry (Turner, in Less & Vogt, 1979, p. 234; Meyer & Land, 2006; Kiley, 2009, p. 294). Graduates can be 'stuck' on some occasions when they have to overcome a certain learning challenge. Mimicking is a strategy that many graduates adopt (when they are 'stuck') as they model the ways of learning to which they aspire by imitating the language, behaviour, and presentation of the perceived desirable understanding. Mimicry is used as a long-term way of pretending to know what is required. The rites of passage mentioned by Turner (in Less & Vogt, 1979, p. 234) are characterised by changes in 'states'. States are relatively fixed or stable conditions and the rite of passage describes the transition from one state to another. The transformation consists of three stages: separation, margin and aggregation. Kiley (2009, p. 294–295) describes these stages as follows: with separation the graduate leaves the state that she or he knew, a state that was fixed and understood. Once having separated, the graduate is not in the state in which she or he was previously, nor in the state to which she or he is aspiring to, but rather in a state of margin (also sometimes referred to as liminality). In the last stage, the transition is consummated, which puts the candidate in the new state. I argue that it is within this last stage that the transformation of doctoral candidates is clearly visible. It is also necessary to address the required epistemological changes in this stage.

In my research I focused on different aspects concerning the transformation of doctoral graduates towards doctoral success. One specific aspect, the ontological development of doctoral graduates, has rarely been acknowledged in the literature. Exploring ontological development in relation to doctoral success brought an interesting and unique aspect to my study.

Becoming doctorate implies a transformation over time, a change in being (Batchelor, 2006). Becoming other than what one is already, a transfer of one state of being to another, is interesting to study as it can assist in the exploration of systems aiding this transformation and progress towards a positive experience of the doctoral process. Barnett (2000b, p. 418) mentions that the key educational challenge is not related to knowledge as such, but to a shift in 'being'. Therefore any account of the world is contestable and our sense of who we are and our relationships to each other and to the world are insecure (Barnett, 2000b, p. 419). If one were to put this notion in educational terms, it would mean that pedagogies are required to develop capacities for coping with supercomplexity, which encourages the formation of a human being who maintains a goal-directed balance in the face of radical uncertainty and challenge (Barnett, 2000b, p. 419). Barnett states that educational systems and curricula have to deal with the notion of supercomplexity as universities today are more subject to external influences such as growing candidate markets and the interests of employers. When a country is looking for a greater responsiveness to the job market, 'a universal shift in direction of performativity is emerging: what counts is less what individuals know and more what individuals can do' (Barnett, 2000a, p. 255).

A pedagogy (Barnett, 2000a) which can cope with supercomplexity deals directly with the graduate's experience and his or her being a human being. It makes 'becoming' possible and offers room for personal engagement and negotiation in frames of meaning. This process dislocates the 'self' and this transformation is the restoration of an identity between the 'self' and meanings. This is possible by allowing space for meanings to emerge from within the person.

It seems as if the aspects of being and becoming are less valued and validated in contemporary higher education, although ontology is recognised as fundamental to epistemological and practical development (Batchelor, 2006, p. 787). However, in being a graduate and becoming an expert in a particular field one must recognise the juncture between these constructs. There is a possible fusion of personal and academic identities, although this conceptualisation is often absent in current constructions of academic identity. During postgraduate studies, candidates question themselves about what they know while

working on course assignments, preparing presentations, revising for examinations or writing theses. They receive confirmation of their capabilities by means of supervisory responses to written work, or when their work is published. Nevertheless, in undertaking a doctorate, candidates encounter conflict between individual and collective values concerning their specific discipline and practices, which creates tensions and challenges as to who they are becoming (Austin, 2002). It appears that both positive and negative experiences are central to the development, affirmation and even the contestation of the transformation of the doctoral graduate. Research which has attempted to explore the nature and range of the influence of events and activities that are relevant to the formative development of doctoral graduate's ontological formation seems limited. Ontological development is rarely articulated explicitly and, even though this aspect is likely to change and develop in complexity as candidates progress through their education, there is not much evidence to give a satisfying clarification of this concept.

The notion of ontology and identity used in my study focuses on the change of 'being' and the transformation process (in that being) in doctoral candidates. Doctoral candidates' 'becoming' includes transformation. They achieve their degree and experience changes in their 'being' which were unattained before the degree. While the doctoral candidate assumes substantial responsibility when entering postgraduate study, success in doctoral studies can be associated with an array of factors or challenges. Universities can assist in facilitating such transformation in doctoral candidates by providing support systems. Such assistance can even contribute towards a higher success rate in doctoral studies.

### **1.2.2. Institutional restrictions**

It is not only doctoral candidates who are in the starting blocks for a new state or experience. Universities have their own boundaries that have to be crossed when it comes to supporting candidates. Limited research has been reported in South Africa on factors contributing to doctoral success, how both doctoral candidates and graduates experience their studies, and what ontological and epistemological transformation can be associated with doctoral research. In my study it was possible to explore some issues concerning the (support) systems within the university as a more comprehensive approach to graduate

education which is necessary if graduates are to remain competitive in the market (Campbell, Fuller & Patrick, 2005, p. 153). There also appears to be a new area of discussion relating to universities and their role as knowledge institutions (Gibbons, 1994; Dall’Alba, 2005). Universities often focus on the transfer and acquisition of knowledge, to the detriment of a holistic understanding of the learning process that takes place while knowledge is constructed. Their focus on knowledge and skill acquisition may detract from an awareness of the transformation within the candidate himself. This focus is inadequate to promote candidate learning (Ramsden, 2003). Incorporating the aspect of ontological becoming may enable universities to better support doctoral candidates and facilitate a higher success rate with these candidates.

Universities do not pay adequate attention to the transformation in the candidate, and they tend to over-emphasise a narrow concept of the intellect (Barnett, 1997; Dall’Alba, 2005). Mouton (2007) argues that the current discourse in South African higher education is obsessed with concerns of efficiency, rather than effectiveness and quality. However, there is currently increased interest in the state of postgraduate candidates and their studies. According to Mouton (2007, pp. 1078–1079), there are at least three reasons for this amplified attention. Firstly, the Higher Education Quality Committee (HEQC) audits have demanded that universities look more closely at various aspects of the quality of postgraduate studies. The quality of management systems and procedures, supervision and examination processes and support to postgraduate candidates have all come under scrutiny. Mouton (2007) argues that according to informal feedback, most universities, including the more established research universities, are not doing enough to ensure that the necessary conditions are in place to ensure the quality of postgraduate studies. Secondly, there is an ageing of active postgraduate researchers in South Africa, which may lead to an increasing decline in overall research production in the country, as well as the steady erosion of the supervisory capacity in the system. Thirdly, there is also an increasing internationalisation and even institutionalisation of corporatism and managerialism in South African universities which brought with it a simultaneous shift in attention from concerns of quality and effectiveness to concerns about efficiency and throughput. This shift has manifested itself in the field of postgraduate studies in the notions that the management

and supervision of master's and doctoral candidates take too long and the rate of conversion from masters to doctoral levels is inadequate.

However, these notions might be based on misconceptions. Arguing that doctoral candidates in South Africa take too long to complete their studies, or that the high number of dropouts is due to ineffective supervision cannot be proven. There is no evidence to support such claims and no such studies have been produced that demonstrate the inefficiency of doctoral candidate production in the country. If such studies could be conducted, Mouton (2007, p. 1082) argues, answers should be sought to the following two questions:

- Whether doctoral candidates in South Africa take longer to complete their degrees than on average internationally, and/or whether South Africa has a higher than average doctoral drop-out rate; and
- Whether the attrition rates must be attributed to poor (supervisory) management of doctoral candidates or weak institutional support rather than other factors.

Only about 40% of all candidates who enter higher education manage to complete their first degree (Mouton, 2007, p. 1080). This is problematic, especially since the National Research Foundation (NRF) declares that 'large numbers of high quality PhDs [need to be produced] to provide the bedrock for an innovative and entrepreneurial knowledge society' (National Research Foundation report 2007/2008, p. 8). The annual report of the Academy of Science of South Africa 2010/2011 also states that not enough high-quality PhDs are being produced in the country in relation to the developmental needs of South Africa (Academy of Science of South Africa report 2010/2011, p. 30). According to the report (p. 9), 'the number of well-trained PhDs in South Africa raises fundamental questions about national capacity, critical partners, innovative programmes, strategic investments and cross-sectoral co-operation'.

The NRF has proposed a solution by developing policies and practices that will monitor supervisory practices and ensure that inefficiencies in this regard are addressed. However, my study demonstrated that such a solution is not the only answer to the above-mentioned postgraduate problems.

Lovitts (2008) indicated that intelligence, motivation, personality, thinking styles, and knowledge interact and are influenced by factors in the micro and macro university environment. These factors might contribute to the successful completion of a doctoral study. However, there also appear to be other important factors contributing to doctoral completion and success. Such factors include ontological (becoming and being a successful novice researcher at a university) and epistemological (the intrinsic and extrinsic value of doctoral research) aspects. Or, as highlighted by Dall’Alba and Barnacle (2007, p. 78):

Knowing, or how we understand the world, arises on the cusp between the history of being – or how being has been thought in the past – and the possibilities of being that are opened up in our everyday practices, projects and activities. In other words, what is – including how things become what they are – and what we know are mutually dependent: ontology and epistemology are inseparable.

### **1.3. Research objectives**

Focusing on such issues concerning doctoral studies and doctoral students, I sought, through my study, to indicate factors contributing doctoral success for doctoral students. While identifying such factors in my study I attempted to move away from epistemological factors influencing doctoral success. My research objective developed from the notion that knowledge institutions pay insufficient attention to the transformation that happens within the doctoral student.

The main research question that I intended to answer was ‘Which changes are experienced by successful doctoral students at Stellenbosch University?’ From this research question I was able to explore some changes taking place as reported by selected doctoral graduates at Stellenbosch University and could thus attempt to identify the interrelation of factors that contributed to successful doctoral completion.

The subordinate questions that had to be answered in order to address the main research question were:

- What concepts are central to doctoral change?
- How are the key concepts related to doctoral change?
- How do successful doctoral graduates recall their journeys of success?

- How can institutional support improve to better support doctoral candidates towards success?

My study aim was therefore to explore how successful doctoral candidates at Stellenbosch University experienced their own growth and change and thereby arriving at a conceptual framework that may better explain and support such changes during doctoral journeys.

#### **1.4. Scope of the research**

With regard to doctoral success, more consideration should be given to the links between knowledge and candidate transformation. Although Barnett (2009) concentrates on being and becoming in higher education, as there is a link between knowledge and being (p. 429), I argue that there are other aspects influencing doctoral success. Within the transformation of a doctoral candidate at the end of their doctoral process, their personal development and epistemological development cannot be easily separated. 'Coming to know brings forward desirable human qualities as distinct from knowing itself and this journey is at least if not more important than the arrival' (Barnett, 2009 p. 433). The answer to the question: Who am I? often relates to the answer to the question: What do I know? (Batchelor, 2006, p. 792). The voice of the candidate is often not heard even though candidates are central to postgraduate studies (Albertyn, Kapp & Bitzer, 2008 p. 750). At the origin of a conjunction between being a candidate and becoming one, one must acknowledge a fusion between personal and academic identities. This is clear when asking any candidate: Who are you? and What do you know? One soon realises that all doctoral candidates go through a certain transformation while being occupied with their studies. However, the importance of such a transformation is not acknowledged enough by universities. Barnett (2009, p. 439) mentions that a genuine higher education cannot contend itself with a project either of knowledge or of skills, or even both. Being is the main idea, for it is being that is fundamentally challenged in and within the world today. More so, the production of doctoral graduates in South Africa is growing. There is, however, a high doctoral attrition rate. According to Mouton (2007), there are systemic issues that need to be attended to:

- too many overburdened and inexperienced supervisors;
- insufficient research preparation for doctoral candidates;

- insufficient national and institutional financial support for candidates; and
- insufficient institutional attention and resources devoted to postgraduate support.

It is not uncommon to hear a candidate or graduate mentioning: 'This course has changed my life' instead of: 'I gained many new skills' or 'I acquired a lot of knowledge'. Such reactions towards a doctoral degree can only be explained if a connection is invoked between knowledge and being and becoming as the candidate was transformed during the course of the doctoral process. There is a notable difference between knowing as such and *coming* to know. It is the 'coming to know' that has person-forming properties and has implications for the transformation of the candidate. It is clear that a human being goes through certain changes when encountering knowledge. Epistemology can have transformative implications. A doctoral candidate goes from knowing to doing and this move lies at the centre of the candidate's new sense of being. The influence and the experience of knowledge appear to be greatly underestimated – especially during doctoral studies.

I conducted a literature review to ascertain which frameworks and models could be useful in contributing to a clearer theoretical and conceptual understanding of the ontological and identity development of doctoral study success while completing a working definition for doctoral success. I identified possible aspects contributing to doctoral success and was able to define the institutional support factors contributing to doctoral success, as indicated by the participants in this research.

### **1.5. Selection of participants**

I selected participants by means of non-probability sampling with a reliance on available subjects. Three participants graduated in March 2010 and three participants graduated in March 2011. Due to the nature of the research, I wanted to interact and interview the participants in person. I therefore had to select people who resided in the same geographical area as I and who were willing to cooperate.

I selected six doctoral graduates who had recently completed their doctoral studies, as well as two individuals close to each of the graduates to form the research target group in this research project. Three graduates who had recently completed their doctoral studies in the social sciences and three in the natural sciences were purposively selected and acted as respondents. To triangulate my results, two individuals close to the graduates were also identified. The main supervisor was included in each case, as well as a person who had a close personal relationship with the participant (such as a wife, colleague, or roommate) who was labelled as the 'significant other'.

Semi-structured interviews were conducted as the focus of my research was situated in the personal (ontological) development of graduates. Each graduate was asked how they had started their doctoral process and what their personal opinion was of the purpose of a doctoral study. From there on they started telling their stories, supported by prompts as the focus of this research question was to elicit stories focused on the respondents' own development. The lists of the questions asked to the doctoral graduates, their supervisors and significant other as well as a table illustrating the triangulation of the questions are provided in Addendum A.

## **1.6. Conclusion**

Postgraduate support is characterised by insufficient institutional attention and resources. If the personal development of the candidate is not supported, the epistemological development may be affected. My study introduces a conceptual framework that stresses the importance of aspects contributing to doctoral success. Doctoral graduates need not force themselves into the identikit model of a successful graduate which is increasingly portrayed in higher education institutions' publicity but they can discover their own individual way of being a graduate. By recognising the significance of such a concept, institutions might assist doctoral candidates better in the future by enhancing the learning experience. This approach might possibly decrease attrition rates and perhaps improve time to completion.

My thesis consists of six chapters. Chapter 1, which describes the research orientation, introduces the study. Chapter 2 deals with the literature review which aided the construction of the conceptual framework. In Chapter 3 the methodology which outlines the research design and methods is presented. In Chapter 4 I report on the empirical findings of the study while in Chapter 5, the concluding chapter, I provide a synthesis of the study by discussing the results and by relating my perspectives from the literature to the empirical results and reflective data.

## CHAPTER 2: LITERATURE PERSPECTIVES

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### 2.1. Introduction

The concept of doctoral success can and should be studied at various levels of complexity. Many authors (Winsberg, 2006; Austin, 2002; Lovitts, 2005; Gardner, 2009; Frick, 2010) have highlighted the challenges involving doctoral success as the focus of their research. They have also noted that the way doctoral research and doctoral education are approached might be highly influential to the outcome of doctoral study. Their research suggests that a number of factors may have an influence on doctoral success, the latter which represents a productive inter-relationship among a number of critical factors. It therefore seems important to approach issues related to doctoral success cautiously and it is against this background that at least four perspectives appear relevant.

According to Heidegger (1962), change in higher education is related to ontological change and as the needs for and expectations of a higher education in society are changing, higher education must transform as well (Heidegger, 1962; Thomson, 2001). Doctoral completion, therefore, implies a particular form of ontological change and development (Barnacle & Mewburn, 2010) that is seemingly necessary in the process of becoming 'doctoral'. For instance, the question arises how doctoral education and doctoral research might be instrumental in the ontological change of doctoral candidates (Thomson, 2003; Dall'Alba & Barnacle, 2007). Typical questions that emerge include the following (Nietzsche, 2006; Flax, 1990; Smith, 2003): What does the concept of ontological change entail? What does the concepts of 'being' and 'becoming' entail within the context of doctoral studies and how are they linked to the very concept of ontological change?

A second and related perspective to ontological change has to do with the transformation in the identity of doctoral candidates. As with ontological change, 'being' and 'becoming' doctoral point to a change of identity as doctoral candidates increasingly involve themselves in the process of becoming researchers, scholars and scientists. Identity formation has not been studied thoroughly in higher education (Delamont, Atkinson & Parry, 2000, p. 5).

Doctoral research also (re)produces knowledge and social identities. These identities are discipline specific, but for all academics the experience of postgraduate research is one in which identity formation is especially important. For most doctoral candidates it involves a degree of identification with their chosen academic discipline. Since universities are major organisations that simultaneously produce knowledge and identities, it can be said that they are both knowledge-processing and people-processing institutions (Gumpert, 2000).

A third view includes the role of transformative learning in doctoral studies. As more universities begin to consider sustainability as a core value in education, there is a need to contemplate the role of transformative learning in higher education (Moore, 2005, p. 76). According to Cranton (1996), the purpose of transformative learning is to implement methods of interpreting experience through critical reflection and self-reflection and to review old assumptions. Transformative learning is of importance in a doctoral process as a doctoral candidate needs to become an independent scholar (Lin & Cranton, 2005) and therefore a successful doctoral candidate. The concept of a successful doctoral candidate is discussed in detail in section 2.2: 'Doctoral Success'. The ultimate goal of transformative learning is to empower individuals to change their perspectives. However, it remains vague how doctoral candidates will transform and into what they are transforming. Other issues such as the different types of transformation taking place during and as a result of doctoral studies, as well as the notion of threshold concepts (Leshem & Trafford, 2007; Kiley & Wisker 2009) are discussed later in section 2.4: 'Identity development'.

A final perspective deals with questions on the role of creativity in the doctoral process and creativity as a seemingly important criterion related to doctoral success. Doctoral candidates are supposed to make an original contribution to their specific discipline (Frick, 2011, p. 495). Creativity is regarded as being inherent to doctoral education (Lovitts, 2005; Frick, 2010). Lovitts (2005), among others, stresses the point of creativity in this process. According to Fullan (2003, p. 18), the moral purpose of education is to make a positive difference to candidates' lives, as well as to help candidates develop their potential as fully as possible at doctoral level. This perspective has the ability to change the very identity of doctoral candidates (Frick, 2011; Lovitts, 2008; Trafford & Leshem, 2009). As my study

focused on determining non-epistemological factors contributing to doctoral success, creativity was considered to be an important factor determining such success. Creativity lies at the heart of a candidate's own identity (Winsberg, 2006).

These four perspectives seem to be important in exploring doctoral success. However, a first point of exploration is the question of what makes doctoral candidates successful in their studies which can provide a proper background for the understanding and exploration of these four perspectives.

## **2.2. Doctoral success**

Success in higher education, particularly the success of doctoral candidates, has been of growing interest (Bitzer, 2011; Gardner, 2009). A doctoral candidate is a growing academic professional (Golde, 1998), occupied with learning the skills, knowledge, habits of mind, values and attitudes of his or her chosen field(s) of study (Gardner, 2009, p 385). According to Gardner (2009, p. 383), the term 'success' in higher education has been widely used to describe multiple outcomes which can include models illustrating understanding how candidates can succeed (e.g. Girves & Wemmerus, 1988; Padilla, Trevino, Trevino & Gonzalez, 1997), the practices best suited for success (e.g. Frost & Fife, 1991; Williams, 2002), the influence of particular variables upon success over time (e.g. Decker, 1973; Fordham & Ogbu, 1986; Burton & Wang, 2005) and even the relationship between specific variables and success (e.g. Hirschberg & Itkin, 1978; Wilson & Hardgrave, 1995; Nettles & Millet, 2006). The definition of this term has enjoyed much attention in doctoral education specifically since only 50% of doctoral candidates actually complete the degree (Gardner, 2009, p. 383; Nettles & Millet, 2006). It has been found that certain factors, such as advising (Baird, 1972 & 1985; Schroeder & Mynatt, 1993), candidate characteristics (Cook & Swanson, 1978; Nettles & Millet, 2006) and grades prior to enrolling in the doctoral study (Girves & Wemmerus, 1988; Burton & Wang, 2005) influence academic success. Any attempted definition of the term 'success', however, remains abstract and vague.

In debates on doctoral success models are often included in order to better understand the best practices for success, the different influences of particular variables and even the

relationship between specific variables and success (Grover & Malhorta, 2004, p. 23; Winsberg, 2006, p. 1; Gardner, 2009, p. 383). For a better understanding of the concept of doctoral success one needs to examine the overall international understanding of this concept. It can then be narrowed down to national and eventually local level.

### **2.2.1. An international view on doctoral success**

Holbrook, Bourke, Lovat and Dally (2004, p. 126) claim that '[t]he objectives for doctoral study are not articulated in convention always, which means that the learning that takes place at doctoral level is something of a mystery'. When the objectives of a doctoral study are not clear, the outcome of the study cannot be clear either. It is of strategic importance that the aspect of 'success' in 'doctoral success' be clarified, for if it is not distinct, the expectations and outcomes for doctoral candidates may remain ambiguous. Doctoral success is a space of increasing complexity. The pressure for the doctoral student is not only to produce a successful doctoral thesis as evidence of the achievements of an original contribution to knowledge in a field, but also at the same time for knowledge institutions to produce graduates who are work ready and knowledgeable about research policies (Boud & Lee, p. 11). This concept can include several different meanings, ranging from professional socialisation to academic achievement and/or graduation (Gardner, 2009, p. 384).

It follows that completion of a doctoral study may not be the only criterion for success, or that it may be too simplistic a measure to explain the developmental processes associated with doctoral becoming. Policies have been produced in general regarding doctorate and doctoral success from a rather thin conceptualisation of what the doctorate is and what it does (Boud & Lee, 2009, p. 10). According to them this results in a set of prescriptions for research degrees that follow economic imperatives. However, they are simplistic in terms of the complications of the various outlines at work in doing doctorate work. This supports Evans, Macauley, Pearson and Tregenza's (2004) perspective that generally the professional doctorates (in Australia) have not had the impact that was expected of them, and that the doctorate has quietly strengthened its grip on doctoral education.

Several indicators are involved when measuring success in a doctoral study. A dissertation or thesis is a usual requirement. Although a candidate may have achieved good grades prior to embarking on the doctorate, it does not necessarily mean that he or she will complete a dissertation. Lovitts (2005, p. 137) argues:

Graduate faculty acknowledge that the transition to independent research is hard for many candidates, and that they cannot predict who will successfully make the transition and complete the doctorate based only on candidates' undergraduate records.

Retention is also a widely used indicator of success in doctoral education. According to Lovitts (2001), retention can be described as persistence, and Isaac (1993, p. 15) states that it 'refers to a candidate's continued enrolment'. Findings from Nerad and Miller (1996) confirmed that of all the candidates who eventually leave their doctoral studies prior to completion, about one third leave after the first year, another third before candidacy and the final third during the dissertation phase. There are various reasons why doctoral candidates leave their studies but these are generally related to issues of integration into the study or department (Lovitts & Nelson, 2000; Lovitts 2001), feelings of psychological and cognitive inadequacy (Golde, 1998), a lack of financial support (Bowen, Rudenstine & Sosa 1992; Bourke, Holbrook, Lovat & Farley, 2004), and dissatisfaction with the study or department (Lovitts, 2001). Lovitts and Nelson (2000, p. 44) contends that 'it is time to give serious attention to one of the fundamental weaknesses of doctoral education – attrition'. Although comprehensive (inter)national data does not exist on the consequences of graduate candidates abandoning their degree studies (Lovitts & Nelson, 2000, p. 44), it is suggested that the long-term attrition rate is about 50%, as mentioned before. Since departments are increasingly compelled to economise, they are put under more pressure as they will be held accountable for the costs of recruiting and training candidates who do not complete their degrees. According to Lovitts and Nelson (2000), attrition is not discipline specific and the overall climate at a given university is not decisive. They argue that attrition is deeply embedded in the organisational culture of postgraduate institutions and the structure and process of postgraduate education.

Another obvious indicator of doctoral candidate success is degree completion. Understandably, different disciplines have different completion rates. The time doctoral candidates take to complete the study is reliant upon many variables (Lovitts, 2001) and differs from discipline to discipline and by candidates' socio-demographic status (Gardner 2009, p. 385). Moreover, doctoral success is influenced by competencies related to the professional realm.

The concept of doctoral success has been explained by measuring it against several outcomes such as retention, academic achievement, completion or graduation, and professional socialisation (Gardner, 2009, p. 384). Also included in the measurement of successful doctoral candidates are the candidates' competencies, such as their disposition towards professional development as well as towards the subject matter, which is also desirable but more of a qualitative measure of success (Hagedorn & Nora, 1996). Becoming doctorate in any academic field is not just a matter of formal learning and assessment in specific domains of knowledge (Delamont, Atkinson & Parry 2000, p. 1). Doctoral education includes notions of creativity, innovation, collaboration, problem solving, ethical conduct, interpersonal communication, interdisciplinary understanding, and entrepreneurial initiative (Campbell, Fuller & Patrick, 2005; De Rosa, 2008; Lovitts, 2005). These notions correspond to Killen's description of quality learning. According to Killen (2003, p. 10), understanding, rather than memorisation; creativity, rather than reproduction; diversity, rather than conformity; initiative, rather than compliance; and challenge, rather than blind acceptance are all outcomes that suggest a complex interplay between the notions of ontology, epistemology and methodology. Although methodologies are inclined to be specific and perpetuated in every discipline (McAlpine & Norton, 2006), the above-mentioned concepts expand beyond the methodological. Doctoral candidates place themselves both ontologically and epistemologically in the learning context. Becoming a 'professional academic' involves much more than just learning the knowledge of a specific discipline. It also involves the acquisition of more general cultural knowledge and personal experience. One must learn not merely about the discipline; one must learn what it entails to *do* it and what it means to *be* a part of it. The outcome of doctoral education has a significant role in

the growth of the professional, industry and commercial fields (Evans, Macauley, Pearson, & Tregenza, 2003, p. 13).

What is often missed when involved in a doctoral study is a focus on what doctoral work actually produces and how it is produced (Boud & Lee, 2009, p.11) beyond the epistemological side of the work. This depends on socialisation into the culture of the discipline (Austin, 2002; Gardner, 2008, p. 329). Socialisation is essential to the success of the doctoral candidate and to his or her development through the degree process. During the socialisation, doctoral candidates learn to adopt the values, skills, attitudes, norms and knowledge; therefore, independency is part of the socialisation process in doctoral study. It is what defines the doctoral degree and its potential recipient (Gardner, 2008). It also rests on a crucial shift from the kind of learning that is characteristic of undergraduate education. Postgraduate candidates often struggle to make the transition from dependent researcher to independent member of the academic or scholarly community (Lin & Cranton, 2005; Gardner, 2008; Lovitts, 2008). Many candidates feel unprepared to make this transition and argue that previous coursework did not prepare them adequately to make such a transition (Lovitts, 2008). This transition is a radical break with mere knowledge reproduction while it simultaneously moves candidates towards knowledge production which they may find difficult to adjust to. The problem of transition is intensified by an academic system where highly successful course takers are given preference for access to doctoral studies. However, this is not a guaranteed prediction for success as a doctoral candidate, as one of the requirements of a successful doctoral degree is that the candidate has made an 'original contribution' to a specific discipline (Phillips & Pugh, 2000, p. 7). However according to Johnson, Lee and Green (2000, p. 145), when doctoral students have to be 'original', it is not so much about them stepping outside the domain of knowledge in which they have been qualified; it is about attaining an authorisation to understand themselves contributing to this domain, being a subject of knowledge.

When exploring what a doctoral degree essentially means, many institutions involved in postgraduate education explicitly press the idea of a professional researcher who works independently (Lovitts, 2005). This transition from dependent learning to independent

research is regarded as being critical, as the candidate has to make a successful shift from 'consumer of knowledge' to 'producer of knowledge' in order to complete a doctoral degree (Delamont, Atkinson, & Parry, 2000, p. 89; Gardner, 2008, p. 328). It is difficult to predict which candidate will make this transition successfully and many supervisors and researchers are unaware of this transition problem (Gardner, 2008; Lovitts, 2001). Lovitts (2005, p. 104) argues that some candidates only achieve this kind of independence in their first postdoctoral or professional position. Gardner (2008, p. 327) contends that the individualised nature of the doctoral study and the need for greater responsibility and creativity on the part of the candidate are factors that may lead to much of the frustration involved in the doctoral process. Although the success of the doctorate is dependent on this transition, limited research exists on the specific transition which is influenced by study organisation and structure (Lovitts, 2005).

Not all the responsibility of achieving success in a doctoral study lies solely in the hands of the doctoral candidates (Holbrook, Bourke, Lovat & Dally, 2004, p. 126). Boud and Lee (2009, p. 11) state that older traditions of doctoral work focus on 'research' rather than 'education' and see the practices of supervisors and study coordination at university and department level implicitly reproducing the ways in which they themselves were inducted into their discipline. Therefore, the role and involvement of faculty members should not be overlooked. The involvement of doctoral candidates with faculty members is very important as the latter serve as teachers, advisors, committee members, mentors, role models and future colleagues (Austin, 2002; Lovitts 2001). In the past, only a small proportion of students went to university; therefore academics could continue in the opinion that they were only catering for the smartest and most dedicated students (Johnson, Lee, & Green, 2000, p. 135). Following this approach, there was an apparent indifference to students. This attitude has changed over the years. Today universities focus largely on educating supervisors and monitoring their performance as well as student progress in order to intervene in the quality of research training provided (Johnson, Lee, & Green, 2000). However, it is still not clear how such faculty members would define success in doctoral education. The important and integral role that faculty members play in the multitude of success variables and how they would conceptualise success are fundamental in structuring

studies and services to increase the experience of doctoral success. However, doctoral success is not uniform (Gardner, 2009, p. 386). When a candidate enrolls in a doctoral study, generally this study is not a university-wide activity but is rather typically conducted for the most part in a single department (Williams, Harlow & Gab, 1970, p. 161), each with its own disciplinary differences when it comes to doctoral success. Doctoral success is experienced differently within and among different disciplines due to the existence of particular qualities, cultures, codes of conduct, values and distinctive intellectual tasks that characterise each discipline (Austin, 2002; Becher, 1981). Consequently, the discipline and the department, rather than the larger institution, become the central focus of the doctoral experience. Biglan (1973) noted that studies of academic cultures and contexts cannot be generalised across different disciplines, while similarly, Becher (1981, p. 109) argued that 'disciplines are cultural phenomena: they are embodied in collections of like-minded people, each with their own codes of conduct, sets of values, and distinctive intellectual tasks'. Therefore, these cultures within disciplines greatly influence the faculty and, consequently, the doctoral candidates within the departments (Golde, 2005). However, Lovitts (2007, p. xiii) argues that standards can be created for doctoral education. The Making the Implicit Explicit (MIE) study found surprising consistency in faculty's characterisation of the dissertation and components of the dissertation. According to Isaac and Walker (1992) and Duke and Beck (1999), a dissertation reflects the training received, the technical skills, and the analytic and writing abilities developed in doctoral study. Such standards would provide stakeholders with a valid and reliable criterion-referenced measure of candidate learning outcomes and educational effectiveness. However, it remains difficult to predict how successful the doctoral candidate will be in the study and later on in his or her career. Williams, Harlow and Gab (1970, p. 161) agree:

Predicting success in a doctoral study would be a most worthwhile accomplishment, providing it could be done with a reasonable degree of accuracy. One problem that has plagued researchers in this important area has been defining the criterion of success.

According to Grover and Malhorta (2004, p. 23), it requires a special kind of person who has the motivation to work hard, going beyond the mere coursework, and to pursue the unstructured process of knowledge creation. It also requires the competence to absorb and

integrate knowledge, apply tools, and communicate knowledge effectively. Not only are the aspects of motivation and management important but the aspect of competence refers to knowledge and communication skills which are broadly assessed through the application process. Emotional intelligence is another construct that can aid in achieving doctoral success (Castro, Garcia, Accountability, Cavazos & Castro, 2011 p. 56). The five domains of emotional intelligence are self-awareness, managing emotions, self-motivation, empathy and handling relationships (Salovey & Mayer, 1990).

Sternberg (1997) claims that emotionally intelligent people accept that obstacles are part of the challenge. They have a 'can-do' attitude and they seek out positive role models. Pritchard and Wilson (2003) suggest that reasons for attrition in first year candidates are emotional rather than academic. Candidates who are emotionally healthy have a greater chance of success (Leafgran, 1989). Although the discussion of the role of emotional intelligence in doctoral success has been brief, it was merely intended to emphasise the argument that doctoral success depends on more than academic intelligence alone.

By taking doctoral education as a form of social practice, Boud and Lee (2009, p. 10) mention that the focus in doctoral education is too often on particular and different levels of policy, programme development and institutional provisions. Rather than merely studying the production of research outputs a shift is necessary in institutional attention to doctoral practices involved in doing doctoral work and producing doctoral graduates.

### **2.2.2. Doctoral success in South Africa**

According to the National Plan for Higher Education (NPHE) (HSRC 2008, p. 1), South Africa's university graduation rate of 15% is one of the lowest in the world. This tendency is of particular concern as the expectations in the labour market – such as those related to employment distribution and the critical shortage of high level skills in the labour market – have shifted considerably. Bitzer (2011, p. 429) points out that in South Africa little research has been conducted on factors that contribute to doctoral success. However, there is a renewed interest in doctoral production in the country (ASSAF, 2010) even though it has a long history in South Africa. The first doctorate that was awarded in South Africa was in law

at the University of the Cape of Good Hope in 1899 and since then South Africa has had 30 000 successful doctoral graduates, about two-thirds of whom graduated in the last two decades (Herman, 2011a, p. i).

Apartheid produced a highly fragmented and racially divided higher education system riddled with inequalities (Sehoole, 2011, p. 56). Since the democratic transition in 1994, doctoral studies have increased and diversified (Herman, 2011b, p. 507). Currently, multiple research agendas and a diversity of purposes and outcomes characterise the doctorate in South Africa. Herman (2011a) claims that this diversity is caused by various factors such the incorporation of different concepts of knowledge, changes in university-industry-government relationships, the growing demand for postgraduate education, and a diverse candidate population together with a changed government policy. Subsequently, the research community has increased its focus on doctoral education. Doctoral education in South Africa is a changing practice (Backhouse, 2011; Herman, 2011b; Jansen, 2011; Mouton, 2011; Nerad, 2011; Sehoole, 2011; Wolhuter, 2011).

One of the current and major discourses regarding doctoral education in South Africa is the increase of doctoral production. There is an emphasis on quantitative concerns (Mouton, 2011, p. 13) to increase the output of postgraduate candidates, especially at master's and doctoral levels. Postgraduate institutions got a clear signal from the government to incentivise doctoral production when the monetary value attached to a doctoral degree was set at three times the value of the research paper – a bold and unique move in terms of international practice (Mouton, 2011, p. 14). Even with the financial benefit attached to doctoral success, South African universities have a high doctoral attrition rate. An attrition calculation conducted 2001 doctoral cohort in the country showed a 46% drop-out rate across all disciplines (Herman, 2011a; Mouton, 2011, p. 18). These results, which correlate with those from studies abroad, revealed that 29% of the doctoral candidates dropped out during the first two years of enrolment.

Doctoral education in South Africa is presented with at least five challenges: (1) increasing the number of doctoral graduates; (2) expanding the supervisory capacity in the system as

supervisors have a heavy supervisory load and are probably supervising between four and six doctoral candidates at any given time; (3) insufficient funding; (4) improving the efficiency of doctoral production as there is an increase of internationalisation and even institutionalisation of corporatism and managerialism in South African universities; and (5) improving the quality of doctoral production (Herman, 2011b, p. 506; Mouton 2007, p. 1079).

Internationally, over the last 30 years, higher education has become increasingly market-driven in several ways (Leonard, 2000, p. 181) and it has become more attentive to how well the national education system is producing what the economy is thought to need. It is clear that South Africa can benefit from an increase in doctoral graduates as economic theorists of the knowledge economy argue that knowledge is crucial to national economic growth and increased prosperity (Powell & Snellman, 2004). In comparison with other countries, South Africa is far behind. Taking 2007 as a benchmark (Mouton, 2011, p. 23) and comparing the doctoral graduate numbers to 34 countries worldwide, South Africa was placed 33<sup>rd</sup>, having 1 274 graduates which translate into 26 doctoral graduates for every million of the total population. However, it is unlikely that the target set by the Department of Science and Technology (DST), of reaching 6 000 doctoral graduates by 2024, will be achieved (Herman, 2011b, p. 505). The problem of doctoral production in South Africa does not lie primarily with completion and attrition rates (Mouton, 2007, p. 1089). According to Mouton (2011, p. 23), there are two main reasons for this state of affairs. Firstly, history is against this goal being achieved. Although there is a significant increase in master's and doctoral enrolments, the doctoral output has not shown the same growth as undergraduate studies. This situation can be ascribed to the fact that institutions have not converted sufficient numbers of undergraduate candidates to continue to postgraduate studies, or honours candidates to enrol for a master's degree and ultimately, enough masters to become doctoral candidates. Herman and Yu (2009) argue that most doctoral candidates make their decisions on whether or not to study for a doctorate during or after their master's studies. This implies that universities should be doing more to market the doctorate to the senior undergraduate level onwards. Secondly, doctoral enrolments have been slowing down and there is little evidence that potential doctoral candidates are expanding in a consistent manner although

in recent years there has been an increase of doctoral candidates from other African countries. However, not many South African candidates are pursuing their doctoral studies overseas (Herman, 2011b, p. 508).

In 2007 the National Research Foundation (NRF) provided funds for 49 doctoral candidates doing a study overseas, mainly in the UK and the USA. It is difficult to estimate how many doctoral graduates will return to the country. Although such candidates benefit greatly from exposure to cutting-edge knowledge, networking and the global knowledge society, it might not contribute significantly towards the desired growth rate of doctoral graduates within the country. Sehoole (2011, p. 53) argues that 'as the demand for greater access to higher education grows, it prompts outward mobility when local demand cannot be met'. Candidates will always move in the direction of educational opportunities, whether they are supported by government, scholarships, or their families' or own resources.

Besides challenges with regard to the increase of doctoral candidates and supervisors, the financial aspects of a doctoral degree must also be considered. According to Kehm (2009), the issue of funding entails strategies in two areas: the funding of the institutions to establish and run doctoral studies, and the funding of doctoral candidates so that they are able to devote appropriate time to their studies. Unfortunately, the NRF has not been able to support doctoral production adequately even though it has been the main funding source of most of the doctoral studies (Herman, 2011b, p. 509). Part of this problem is the three-year duration of the funding as this often does not allow enough time for candidates to complete the study. Herman (2009) argues that for many candidates the level of funding is unacceptable.

The doctoral population also has changed in terms of gender, race, age, familial status and educational background, which also has implications for the funding. Many doctoral candidates have a family to support. The majority of the candidates were working for a salary prior to the commencement of their studies and most of them continue to work during the study (Herman, 2009). Other concerns with regard to funding are the delays in

accessing funds and the funding agents' continuously changing strategies. If South Africa wants to scale up the number of doctoral candidates, it will require high levels of funding.

However, in view of the above-mentioned challenges, it remains questionable whether doctoral production is efficient. Mouton (2011, p. 24) argues that there are two ways of effectively increasing the efficiency of doctoral production: reduce the time to degree of successful candidates and reduce the attrition rate so that more candidates remain in the system. In comparison to other countries, South African doctoral candidates are doing relatively well with an average of 4.8 years in 2007 (Mouton, 2007), especially considering that the majority of the candidates are part-time candidates. The time to degree could be reduced by investing more money into supporting doctoral candidates so that they are able to study full time. This is increasingly supported by the NRF and Higher Education South Africa (HESA). In addition, South African doctoral attrition rates compare very favourably with international trends and appear to be not much higher than that of the USA. Still, attrition is expensive. At a drop-out rate of 20% (Herman, 2011, p. 40), about R1.3 billion in government subsidies is spent each year on candidates who do not complete their studies.

The causes for doctoral attrition are multifaceted and not fully understood. Doctoral candidates tend to attribute the reasons for dropping out to the institutions, while faculty members attribute them to the candidates (Gardner, 2009; Lovitts, 2001). Although it is necessary to achieve a decrease in the attrition rate in order to increase the number of doctoral candidates (Herman, 2011a, p. 512), attrition is an unfortunate reality of doctoral studies and preventive measures will only have a limited effect as the majority of the reasons for attrition are personal (Golde, 1998, 2000, 2005; Gardener, 2009).

Since supervising doctoral candidates is labour intensive and not easy, doctoral education is another challenge when it comes to successful doctoral education. It is not just an overload of candidates that has an influence, but the quality of the supervision that is also important. It is thus suggested that South African universities link their doctoral studies more closely to industry and the public sector. This is already taking place in countries such as Australia, Brazil and European Union countries (Nerad, 2011, p. 4). However, such initiatives would

need a shift in the focus of doctoral education. The emphasis will have to be on the training in research and other transferable skills, while the knowledge produced takes second place (Backhouse, 2011, p. 32). This approach is stressed by the job market today as a doctoral degree is sought after in labour markets that are looking for such highly trained minds and a range of transferable skills. According to Backhouse (2011), the labour market discourse can create concerns for the efficient supervision of candidates and in meeting the expectations of their future employers. Universities are thus challenged to focus on encouraging young people to undertake doctoral studies so that they have longer active research lives, which would result in a greater return on investment. An increase of successful doctorates may therefore have a major influence on South Africa's economic development.

### **2.2.3. Stellenbosch University and doctoral success**

After having discussed doctoral success from both an international and a South African point of view, it is important to examine the relationship between doctoral success and Stellenbosch University as the developed framework for doctoral success is in relation to this university. The ASSAF report (ASSAF 2010, p. 35) states that doctoral research provides invaluable education and training aimed at producing highly skilled knowledge workers capable of transferring their intellectual and technical expertise to wide-ranging global contexts. Stellenbosch University is therefore concerned with increasing its doctoral output. The Overarching Strategic Plan (OSP) foresees, inter alia, a growth of 5% per year in postgraduate candidates for Stellenbosch University. This plan aims at steering the institution towards the achievement of a number of strategic goals by 2015 – including that 40% of all Stellenbosch candidates will ideally be enrolled at the postgraduate level (Overarching Strategic Plan for Stellenbosch University, 2009).

Studies at this level, however, are expensive for all sponsors. Research at Stellenbosch University on the ageing of active scientists in public science in South Africa has produced a growing concern about the provision of quality supervision to the next generation of scholars and scientists (Mouton, 2007, p. 1079). Likewise, the Centre for Higher and Adult Education did a study which provided candidate feedback and reflection on supervision practices within a postgraduate research entity (Albertyn, Kapp, Bitzer, 2008, p. 762). Such

studies can result in the improvement of quality to enhance more effective and efficient supervision of postgraduate candidates.

With regard to completion rates in postgraduate studies it seems clear that such rates are related to contextual issues that confront candidates. This includes workload and the extent of structure provided as well as the relevance of research to a workplace. Research by Lovitts (2005) has indicated that candidates regard interpersonal support, concerns regarding scientific rigour, quality control of the research product, and managerial aspects such as monitoring and time management as being important. These issues seem highly relevant to the Stellenbosch scenario as will be alluded to later.

In terms of enrolment for two-year doctoral studies at Stellenbosch, Table 2.1 below indicates that the number of doctoral candidates remains relatively constant. One exception was for the period 2006 to 2007. If enrolment for 2007 is compared with that of 2006, a rise of 35 doctoral candidates is evident. This represents an increase of 21.2%. This increase is important as, according to the Stellenbosch University Report of 2010 (van der Merwe, 2011, p. 24), the university envisages becoming the leading research intensive higher education institution on the African continent. In 2010, the university had 10 044 postgraduate candidates, which constituted 36% of the candidate body. Not only did the number of doctoral enrolments increase steadily, but the percentage of successful doctoral candidates climbed as well (Table 2.2).

Table 2.1: Number of doctoral enrolments at Stellenbosch University from 2000–2008

Source: Du Plessis & Menkveld, 2010, p. 5

<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
181	159	148	149	176	176	165	200	202



From Figure 2.1 it is clear that most doctoral candidates qualified after the minimum time frame plus two years. However, this percentage varied between 13.33% (2003) and 18.92% (2002). Only a minimal number of doctoral candidates qualified in the minimum time frame or in the minimum time frame plus four years. The percentage for the minimum time frame varies between 5.41% (2002) and 7.33% (2003) and for the minimum time frame plus four years it varies between 2.76% (2000) and 15.54% (2002).

With regard to doctoral success at Stellenbosch University, it is not only the number of doctoral candidates who finished their doctoral studies successfully, but also the number of doctoral candidates who left the university without a doctoral degree that must be considered.

Figure 2.2 below indicates the state of completion for 2000–2003 with regard to the percentage of candidates and the year of enrolment.

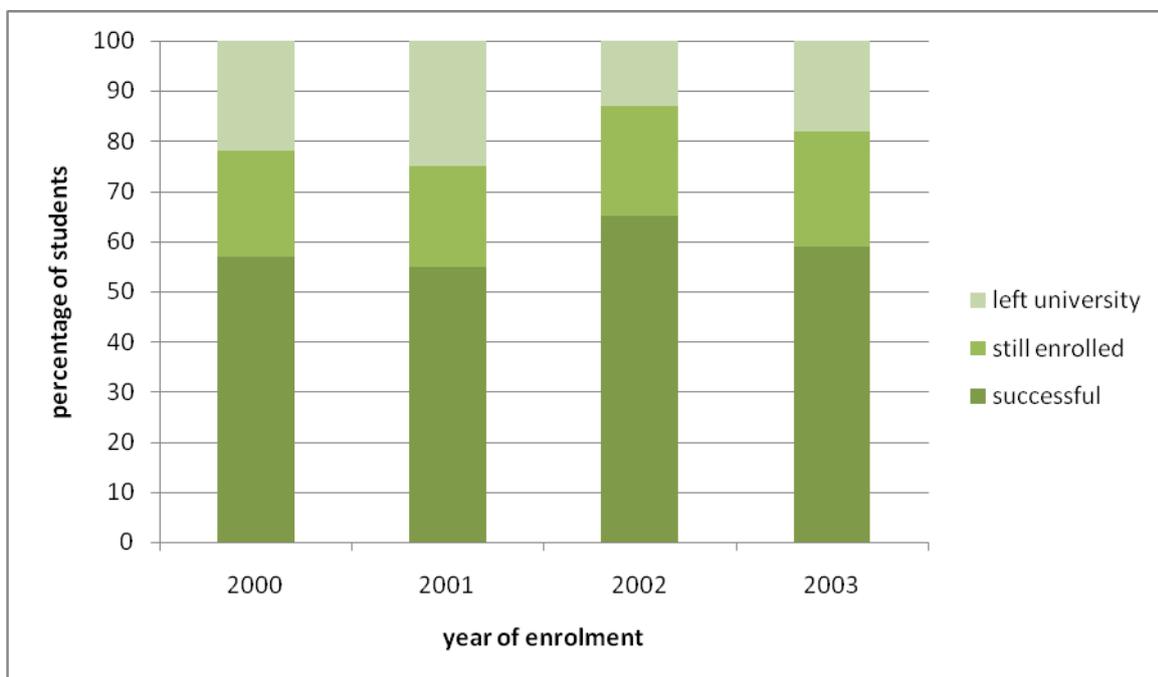


Figure 2.2: State of completing a doctoral degree after six years (2000–2003)

Source: Du Plessis & Menkveld, 2010, p. 7

From Figure 2.2 it may be deduced that more or less 20% of the different cohorts were still enrolled at Stellenbosch University for the years shown and that an average of 18% left the

university without a qualification. All these figures demonstrate that there are substantial differences between cohorts of doctoral candidates with regard to success rates, candidates still enrolled but not qualified yet, and candidates who left the university without a qualification. These numbers are presented in order to understand why the focus on doctoral success is so important and why Stellenbosch University is continuously searching for (new) ways to support candidates.

In order to better support candidates, Stellenbosch University established a Postgraduate and International Office (PGIO) in 2010. The PGIO aims to assist in increasing the number of postgraduate candidates and in enabling these candidates to complete their studies inside the minimum required time frame (Stellenbosch University Report 2010, p. 25). Besides offering support to doctoral candidates through the PGIO, Stellenbosch University ensures that the Library and Information Service offers these candidates dedicated professional support for and services in reference, information and knowledge management by providing efficient specialist management of information resource collections. The 2010 report (p. 26) states:

The environment of the vice-rector remains committed to the University's vision [...]the three divisions are working collectively towards rejuvenating and diversifying the research corps, towards strengthening the candidate support structures at the postgraduate level, towards securing sustainable resources and infrastructure for research, and towards broadening the University's knowledge base.

It thus seems important to explore doctoral success as each successful doctorate plays a part in defining the quality of research of a country. Sufficient attention to doctoral candidates in order to increase research, development and innovation seems to be of crucial concern as the doctorate is regarded a generator of high level knowledge and skills. Also, newly generated knowledge acquired through doctoral education is widely acknowledged as an important strategic and economic resource (ASSAF, 2010, p. 35). It is thus crucial to recognise the role of the successful doctorate in proceeding towards economic growth and innovation which may attract new investments and create new jobs and markets.

### **2.3. Ontological perspectives**

Having discussed the issue of doctoral success in quantitative terms, it is imperative also to discuss the qualitative aspects which may be influencing the probability of doctoral success. I argue that one of the aspects that could influence doctoral success is a change in the ontology or the very being of doctoral candidates. This ontological transformation, I believe, is a personal change doctoral candidates experience as knowledge workers and as they become scholars and researchers in a field. This next section clarifies the concept of ontology and how it is considered to possibly influence the doctoral candidate in achieving doctoral success.

According to Dall’Alba and Barnacle (2007, p. 679), ontological aspects in higher education have tended to be subordinated to epistemological concerns. This means that the notions such as the transfer and acquisition of knowledge skills, either generic or discipline specific, have been emphasised rather than the personal transformation of the candidate or the influence of a doctoral study on the person’s being. The question of whom or what a doctoral candidate becomes is important (Barnacle, 2005, p. 179). Frick (2011) argues that doctoral becoming is conceptualised in three main developmental areas: ontology, epistemology and methodology.

From this previous section alone, it is clear that ontology is a complicated concept and one that can include numerous aspects. In order to better understand ontology in the context in which it is used with regard to doctoral success, different perspectives are explained and illustrated in sections 3.1–3.4.

#### **2.3.1. What is ontology?**

The word ‘ontology’ is derived from the Greek *onto-logos*, meaning the science of being (Oxford Dictionary, online version, [www.oxforddictionaries.com](http://www.oxforddictionaries.com)). Ontology is a systematic account of existence or the study of the categories of things that exist. If one takes this definition of ontology further, it can be argued that what exists is that which can be represented (Viljoen, 1994, p.1). This provides a simplified and well-defined view of a specific area of interest or domain. In essence, ontology is a specification of a

conceptualisation, which means that it is a description of the concepts and relationships that can exist for an agent or a community of agents (Gruber, 1995).

'Ontology' is also used in everyday language for researchers who need to share information and want to create a comprehensive knowledge model (Noy & McGuinness, 2001; Wang, Chan & Hamilton, 2002). Developing an ontology has different reasons and, according to Noy (2001, p. 79), some of the main reasons are to share a common understanding of the structure of information among people, to enable reuse of domain knowledge, to make domain assumptions explicit, to separate domain knowledge from the operational knowledge and to analyse domain knowledge.

Different forms of ontology are used in different contexts. In the context of this study I ontology plays a large role. Ontology involves the study of 'being' in general and it can also be used as a science prior to all others in which particular forms, modes or kinds of being are studied. Such ontologies are designed and specified by a collection of names for concept and relation types organised in a partial ordering by the type-subtype relation. Therefore, 'an' ontology is the statement of a logical theory (Gruber, 1995).

### **2.3.2. Ontology in education**

Although the term 'ontology' is mainly used in the context of philosophy, for the purpose of this study I needed look at ontology in relation to education. One prominent philosopher who linked ontology with education was Martin Heidegger. I discuss his perspectives next.

#### *2.3.2.1. A Western perspective: Heidegger*

As mentioned before, ontological change has rarely been the focus in education as epistemology was previously regarded as being more important (Dall'Alba & Barnacle, 2007, p. 679). Therefore, limited research has been done regarding the change in doctoral candidates when acquiring or generating new knowledge. When discussing ontology from an educational point of view, one needs to abandon the dichotomy between an educational reading and a philosophical reading. It is necessary to undertake a simultaneously educational and philosophical dual reading of writings which are defined by their

fundamental ambiguity, that is, by their reference to two social spaces, which correspond to two mental spaces (Bourdieu, 1975; 1991, p. 3).

A new area of discussion relating to universities and their role as knowledge institutions has emerged (Gibbons, 1994; Barnett, 2000b; Dall’Alba, 2005). Universities often focus on the transfer and acquisition of knowledge, to the detriment of a holistic understanding of the learning that takes place while knowledge is constructed (Dall’Alba & Barnacle, 2007, p. 682). If universities acknowledge the ontological influence of knowledge, support can be provided to doctoral candidates to facilitate the implementation of knowledge and eventual candidate success. Due to institutions’ prevalent focus on knowledge and skill acquisition, one can presume that they are sometimes unaware of the transformation within the candidate. This focus is inadequate in promoting candidate learning (Ramsden, 2003) as such a narrow focus treats learning not only as unproblematic but also as linear. Doctoral candidates are sometimes not assisted or supported in situating and localising knowledge within specific manifestations of practice or sometimes they have to integrate newly acquired knowledge into practice by themselves. This creates a challenge for the candidates and therefore it may affect their development and eventually their being, thus influencing ontological change.

According to Barnett (1997) and Barnacle (2005), knowledge institutions do not pay attention to transformation in the candidate as they tend to over-emphasise a narrow concept of the intellect (Barnett, 1997; Barnacle, 2005). Heidegger argues that as beings we are changing, therefore education must transform as well. Our understanding of education is made possible by the history of being. As our understanding of what beings are is changing historically, our understanding of what education is is transformed as well (Heidegger 1962, p. 56). Dall’Alba and Barnacle (2007) claim that ‘[a]lternative accounts of knowing can be mobilised by challenging the idea that mind and reason occupy a privileged and detached stance in relation to the body and world’. Knowledge, which leads to ‘knowing’, is always situated within a personal, social, historical and cultural setting, and knowledge transforms from the merely intellectual to something that is inhabited and enacted.

As knowledge influences one's way of thinking, making and acting, knowledge is a way of being. This argument is closely linked to the previously mentioned discussion between epistemology and ontology as university teaching concentrates on 'being in the world' instead of on 'knowing the world'. This approach appears to take a primary place in the conceptualisations of university teaching (Barnacle 2005; Dall'Alba & Barnacle, 2007). Learning in higher education needs to be transformed to include and acknowledge the ontological change in candidates. It is not only the transfer of knowledge that is important; it also needs to be understood as having been created, embodied and enacted. It can be seen as epistemology in service of ontology.

Higher education institutions have certain shortfalls which make it difficult to monitor ontological change or contribute to ontological change (Dall'Alba & Barnacle; 2007): these include the de-contextualisation of knowledges from the practices to which they relate; emphasis on a narrow conception of knowledge rather than learning; overemphasis on the intellect; a focus on epistemology and methodology at the expense of ontology. The task of such institutions is incomplete if they merely focus on knowledge acquisition. Supervisors of doctoral candidates should be aware of the importance of a candidate's development outside the intellectual added value acquired during his or her studies (Barnett & Coate, 2005). They need to assist candidates in integrating knowing, acting and being. Dall'Alba and Barnacle (2007, p. 241) argue that becoming a researcher 'involves entering into these ways (of ontological becoming) of thinking, acting and being'. Becoming is an open process as it is never complete and has to draw upon the aspects that assist learning (such as commitment, openness, wonder and passion) but it also has to deal with aspects that limit the learning (such as resistance, prejudice and anxiety). Ontological development influences the supervisor as well as the candidate and how supervisors can assist the candidate in their development towards becoming successful doctorates and becoming researchers.

In many candidates there seems to be a change from taking in knowledge to producing knowledge (Barnacle, 2005). According to Heidegger, our changing historical understanding of 'education' is grounded in the 'history of being', so we can extract from this notion that































































































































































































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## **Addendum A: Interview questions**

### **Questions for doctoral graduates**

- Why did you start a PhD?

Prompt: what was the decisive factor? (E.g. personal development?)

- What do you think the purpose of a PhD study should be?

Prompt: And was this happening in your case?

- What contributed to your doctoral completion?

Prompt: Did that grow/change during your studies and in what way?

- How did your doctoral studies make you think differently about yourself?

Prompt: In what way? How specifically? When?

- In which stage/phase did you learn most from your study?

Prompt: What did you learn and did it contribute to your successful completion?

Plus: Was there something unforeseen or challenging?

- Who played an important role during your doctoral study? And what role was that specifically? Supervisor? Close friend?

Prompt: Was this person decisive for your success? And why?

- Closing question: Did you learn from the doctoral process what you expected to learn?

Prompt: If not, what were the barriers?

### **Questions for supervisor**

- What do you expect a candidate involved in a doctoral study should learn?

Prompt: What do you personally think a PhD study is about or should be about?

- Why do you think Candidate X was successful in the completion of the studies?

Prompt: What made the candidate successful?

- From your observations, did Candidate X change during his or her PhD studies? And in what way?

Prompt: What made it possible, what contributed to it?

- In what aspect of the study did you find Candidate X most successful? And why?

- When did you realise Candidate X was going to complete the PhD study successfully?

Prompt: Was there any time you doubted the success of the candidate?

- What role did you play in Candidate X's study success? And how?

Prompt: How did you fulfil that role and were you always able to perform it?

### **Questions for significant other**

- Why do you think X started with PhD studies?

Prompt: Personal motivation?

- What do you think was X's greatest (accomplished) success during the studies?

Prompt: How did he or she achieve it?

- Did you observe any changes during his or her study?

Prompt: In what way? When did you notice these changes? Why do you think these changes occur?

- What role did you think you have played in contributing to the success of X's doctoral studies?

Prompt: What support?

- Did you expect X to succeed? Why?

Prompt: When did you have your doubts?

- At what stage of his or her studies did you become convinced he or she was going to succeed in the study?

Prompt: Why?

To illustrate the triangulation of the questions, table B shows how overlapping the questions were (grey areas) so that the answer could be confirmed by more than one person.

## Addendum B: Table illustrating the triangulation of the questions

Questions	GRADUATE	SUPERVISOR	SIGNIFICANT OTHER
Why did you start a PhD?			
What do you think the purpose of a PhD study should be?			
What contributed to your doctoral completion?			
How did your doctoral studies make you think differently about yourself?			
In which stage/phase did you learn most from your study?			
Was there something unforeseen or challenging?			
Who played an important role during your doctoral study?			
Did you learn from the doctoral process what you expected to learn?			
<i>What do you expect a candidate involved in a doctoral study should learn?</i>			
<i>Why do you think Candidate X was successful in the completion of the studies?</i>			
<i>From your observations, did Candidate X change during his/her PhD studies?</i>			
<i>In what aspect of the study did you find Candidate X most successful?</i>			
<i>When did you realise Candidate X was going to complete the PhD study successfully?</i>			
<i>What role did you play in candidate X's study success?</i>			
Why do you think X started with PhD studies?			
What do you think was X's greatest (accomplished) success during the studies?			
Did you observe any changes during his/her study?			
What role did you think you have played in contributing to the success of X's doctoral studies?			
Did you expect X to succeed?			
At what stage of his/her studies did you become convinced he/she was going to succeed in the study?			

## **Addendum C: Ethical clearance**

### **ETHICAL CLEARANCE**

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Researcher:	Ms S VandenBergh
Research project:	AN ONTOLOGICAL FRAMEWORK FOR EXPLAINING SUCCESS IN DOCTORAL STUDIES AT STELLENBOSCH UNIVERSITY
Nature of research project:	Doctoral thesis in the Department of Curriculum Studies, Faculty of Education, University of Stellenbosch
Reference number:	329 / 2010
Supervisor:	Prof E Bitzer and Dr L Frick
Date:	03 May 2010

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This research proposal and associated documentation of Ms S VandenBergh was tabled and considered at a meeting of the Ethics Committee (as prescribed by Council on 20 March 2009 and laid down in the SU policy framework) on 03 May 2010; the purpose being to ascertain whether there are any ethical risks associated with the proposed research project of which the researcher has to be aware of or, alternatively, whether the ethical risks are of such a nature that the research cannot continue.

### **DISCUSSION**

The Ethics Committee received the following documentation as part of the submission for ethical clearance:

- A signed application for ethical clearance [signed only by the supervisor]
- A consent to participate form
- A copy of the research proposal
- A copy of the CV of the researcher

The aim of this research project is to establish an ontological framework for PhD candidates at Stellenbosch University, mainly directed at understanding the challenges faced by such candidates and thereby contributing to the support of doctoral candidates.

### **FINDING**

The proposed research in essence complies with the requirement of the University of Stellenbosch with regard to informed consent, voluntary participation and confidentiality of personal information. However, the researcher should note the following:

1. The researcher will need to sign the application to the University of Stellenbosch for ethical clearance of her research.
2. The researcher indicated that she will approach the office of Prof. J Botha to obtain permission to conduct research with doctoral candidates within this university. The researcher will need to provide the Ethics Committee with a letter of approval from Prof. J Botha.
3. According to the application form (7.1) the researcher indicates that she will use personal records as a research procedure. It is however not clear what this entails and if permission needs to be obtained for this. This should be clarified in a note to the Ethics Committee.

## RECOMMENDATION

It is recommended, in view of the application together with information at the disposal of the Ethics Committee that the proposed research project continues provided that:

1. The researcher remains within the procedures and protocols indicated in the proposal, particularly in terms of any undertakings made and guarantees given.
2. The researcher notes that her research may have to be submitted again for ethical clearance if there is substantial departure from the existing proposal.
3. The researcher remains within the parameters of any applicable national legislation, institutional guidelines and scientific standards relevant to the specific field of research.
4. The researcher will provide the Ethical Committee with a signed copy of the application. This should be submitted to Ms Maléne Fouché (mfouche@sun.ac.za), Research Development Division, Stellenbosch University.
5. The researcher will provide the Ethical Committee with a letter of approval from Prof. J Botha.
6. The researcher will provide a clear explanation of what “personal records” entail and if permission is granted for this procedure.

On behalf of the Ethics Committee

3 May 2010

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Johan Hattingh, Callie Theron, Elmarie Terblanche, Ian van der Waag, Ray de Villiers,  
Christo Thesnaar

## **Addendum D: Informed consent for participants**

### **STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH**

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An ontological framework for explaining doctoral success at Stellenbosch University

You are asked to participate in a research study conducted by Stefanie Vandenberg (doctoral candidate) from the Department of Curriculum Studies at Stellenbosch University. The results will be indicated in the PhD thesis of Stefanie Vandenberg. You were selected as a possible participant in this study because you met the requirements for the study, namely a PhD graduate of March 2010.

#### **1. PURPOSE OF THE STUDY**

The aim of this research project is to establish an ontological framework for PhD candidates at Stellenbosch University, mainly directed at understanding the challenges faced by such candidates and thereby contributing to the support of doctoral candidates.

#### **2. PROCEDURES**

If you volunteer to participate in this study, you would be asked to do the following things: Answer questions involving your personal experience and change during your doctoral studies. The interviews will be scheduled and will have a time limit.

#### **3. POTENTIAL RISKS AND DISCOMFORTS**

There will be no physical risks involved in this study and if there is any discomfort concerning a specific question, you will have the right not to answer that specific question.

#### **4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

There is no benefit involved to the participants, however, the University of Stellenbosch will have a clearer insight into the possible ontological changes in their PhD candidates and this might assist in improved support for future PhD candidates.

#### **5. PAYMENT FOR PARTICIPATION**

No payment will apply. Your participation will be completely voluntary.

#### **6. CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of guaranteed anonymity. The interviews will be digitally stored and transcribed. They will be only accessible to Stefanie Vandenberg.

The participant has the right to review the interview if find necessary.

Interviews will be erased after completion of the study.

For future publications, the participants will remain anonymous.

#### **7. PARTICIPATION AND WITHDRAWAL**

You can choose whether to be part of this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

## 8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact my supervisor, Prof. E.M. Bitzer: [emb2@sun.ac.za](mailto:emb2@sun.ac.za), my co-supervisor, Dr L. Frick: [blf@sun.ac.za](mailto:blf@sun.ac.za) or myself Stefanie Vandenberg: [svandenberg@sun.ac.za](mailto:svandenberg@sun.ac.za).

## 9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

The information above was described to [*me/the subject/the participant*] by Stefanie Vandenberg in Afrikaans/English and [*I am/the subject is/the participant is*] in command of this language or it was satisfactorily translated to [*me/him/her*]. [*I/the participant/the subject*] was given the opportunity to ask questions and these questions were answered to [*my/his/her*] satisfaction.

I hereby consent voluntarily to participate in this study/I hereby consent that the subject/participant may participate in this study. ] I have been given a copy of this form.

\_\_\_\_\_  
**Name of Subject/Participant**

\_\_\_\_\_  
**Name of Legal Representative (if applicable)**

\_\_\_\_\_  
**Signature of Subject/Participant or Legal Representative**

\_\_\_\_\_  
**Date**

**SIGNATURE OF INVESTIGATOR**

I declare that I explained the information given in this document to \_\_\_\_\_ [*name of the subject/participant*] and/or [his/her] representative \_\_\_\_\_ [*name of the representative*]. [*He/she*] was encouraged and given ample time to ask me any questions. This conversation was conducted in Afrikaans/English and no translator was used.

\_\_\_\_\_  
**Signature of Investigator**

\_\_\_\_\_  
**Date**

## **Addendum E: Use of personal records of potential participants**

### PERSONAL RECORDS OF POTENTIAL PARTICIPANTS

(1) Potential participants will be chosen from March 2010 Doctoral graduates from all the different faculties at Stellenbosch University.

(2) With 'personal records' I imply the availability of personal information of these March graduates of all faculties. This will be helpful for my purposefully selection of possible participants. This will include the following:

- Personal information of the potential participant such as:
  - o Name
  - o Contact details
  - o Sex
  - o Age
  - o Race
  - o Position
  - o Where participant lives
  - o Where participant comes from
- Information with regard to the completed studies of the potential participant
  - o Study field
  - o Name and particulars of supervisor

(3) I want to emphasise that these particulars will not be used in any way other than to make a purposeful selection of six participants in the research project. After the selection has been made, the information of all other potential participants will be destroyed.

## Addendum F: Ethical clearance approval



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY  
jou kennisvenoot • your knowledge partner

23 June 2010

Tel.: 021 - 808-9183  
Enquiries: Sidney Engelbrecht  
Email: [sidney@sun.ac.za](mailto:sidney@sun.ac.za)

Reference No. 329/2010

Ms S van den Bergh  
Department of Curriculum Studies  
University of Stellenbosch  
**STELLENBOSCH**  
7602

Ms S van den Bergh

### APPLICATION FOR ETHICAL CLEARANCE

With regards to your application, I would like to inform you that the project, *An ontological framework for explaining success in doctoral studies at Stellenbosch University*, has been approved on condition that:

1. The researcher/s remain within the procedures and protocols indicated in the proposal;
2. The researcher/s stay within the boundaries of applicable national legislation, institutional guidelines, and applicable standards of scientific rigor that are followed within this field of study and that
3. Any substantive changes to this research project should be brought to the attention of the Ethics Committee with a view to obtain ethical clearance for it.

We wish you success with your research activities.

Best regards



**MR SF ENGELBRECHT**  
**Secretary: Research Ethics Committee: Human Research (Non-Health)**

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## Addendum G: Example of page from transcribed interview

Lindie

S: Sê vir my Lindie, hoekom het jy begin met 'n PhD?

L: Om mee te begin, ek het als 'n skoolkind al besluit ek wil één dag historikus word. En toe het ek uitgevind wat moet mens doen om historikus te word. Dus se hulle jy moet 'n PhD doen. So als 'n skoolkind het ek al besluit ek gaan 'n PhD doen. En dit was vir die groot mense nogal vreemd en toe ek 'n voorgraadse candidate was was dit vir my vreemd, veral was dit vir ander vreemd en vir my was dit 'n vanselfsprekendheid. Vir my was dit 'n vanselfsprekendheid dat ek 'n PhD sal doen en ek was nie, ek was nie geïntimideerd dat ek dalk nie slim genoeg gaan wees nie. Ek het op 'n manier geweet dat dit doenbaar is. Ek denk ek het, iemand het aan my verduidelik jy doen eers 'n BA, dan doen jy 'n meesters en dan doen jy 'n doktersgraad en dit het vir my gewoonweg omtrent na die trappe op 'n leer geklim. En dit was my doelwit van dat ek in die universiteit ingestap het was om 'n doktersgraad te doen. Beide my ouers het dit reeds voor die tyd geweet en ek het voor dat ek universiteit toe gegaan het reeds die ondersteuning gehad om voltyds te studeer tot dat ek 'n PhD het. Dus was daar nooit druk op my om te begin werk of enige iets van daardie aard. Dit was 'n doelwit wat vir my en voor my familie duidelik was.

S: Jy se dit was van kleins af. Hoe jonk was jy?

L: Ek was 14 byna 15 jaar oud toe ek besluit het ek wil historikus word. En ek denk teen die tyd dat ek uitgevind het dat ek 'n PhD daarvoor moet doen was ek so seker 16 of 17.

S: En jy het nooit gesê jy het gedenk jy gaan nou nie slim genoeg voor wees nie of dit van in die begin gedenk dit is haalbaar?

L: Ja. Ek het altyd gedenk dit is haalbaar. Ek het op 'n manier my moeder was, is die tipe persoon wat nie, my vader is die tipe persoon wat deur grade en titels geïntimideer word, my moeder nie. So sy het juis die irritasie gehad oor mense wat geïntimideer voel oor grade en titels. En dus het ek vanuit haar perspektief gesien dat iemand met 'n doktersgraad is eintlik ook 'n normale mens. En toe het my ma my, ek was matriek gewees so, ek was byna 18, toe het sy my, dit was destyds RAU, die Rand Afrikaanse Universiteit, het sy die universiteit gekontak om by hulle uit te vind hoe werk studies in geskiedenis. En die dekaan verwys haar toe na Prof. Grietjie Verhoef by die departement historiese studies en my ma neem my nou na hierdie professor, hierdie matriek kind, nog vol puieties, stap toe in die professor se kantoor in en vra toe vir haar oor wat moet gebeur om nou historikus te word. En die professor was duidelik uiters verbaas. Sy het nie geweet wat maak 'n mens met 'n matriek kind wat in jou kantoor sit en se ek wil één dag 'n doktersgraad doen nie. En sy het nog mooi met ons gepraat oor as jy 'n as jy van plan verander is dit ook nie die einde van die wêreld nie. En ek onthou dat ek na haar gesit, gekyk en gedink het: maar jy kan dit dan doen, as jy dit kan doen dan kan ek dit mos ook doen. So ja, dit was euh, ek het besluit ek het altyd goed gedoen in geskiedenis so dit het nie vir my so gegaan oor 'n PhD nie, dit het my meer gegaan oor 'n PhD in geskiedenis omdat ek geweet het ek is goed met geskiedenis en dus gedenk ek sal dit doen. Ek het dom gevoel met ander skoolvakke so's wiskunde was ek baie dom, rekeningkunde het ek ook gesukkel maar omdat ek geweet het dat ek net geskiedenis gaan doen en net sal doen waarmee ek goed is dan sal ek dit mos kan doen.

S: Jy het besluit om geskiedkundige te word, is dit reg om te se, omdat jy net goed was in geskiedenis?

L: Nee, ek het as klein kind reeds, ek was baie lief vir stories, en ek het, ek sal nooit vergeet nie, ek was ag jaar oud toe ek my eerste geskiedenisles hoor en die juffrou het vir ons op die mat vir haar in die klaskamer gehad en met groot oë vir ons die verhaal van die slag van die bloedrivier vertel en ek onthou op één stadium het sy met so 'n diep stem gesê hoe die bevel gaan uit na die Voortrekkers: julle skiet nie voor dat julle die wit van hulle oë sien nie. En ek het dit in my geestesbeeld ook gehad, hierdie donker nag met hierdie donker Zulu's wat naderkom en jy sien net hierdie stukkie oogwit en dan skiet jy.