

# **Complex legacies and future prospects: Conceptualising changes in South African doctoral education**

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## **Abstract**

A number of key drivers are responsible for the major shifts taking place in doctoral education globally, including massification, globalisation, digitalisation and the knowledge economy. While each of these drivers permeates the South African higher education context to some extent, we argue that the country's complex historical legacies provide a unique background and lens through which key drivers of doctoral education can be framed. Thus, our focus is firstly to outline the complex legacy of apartheid and its implications for the country's transformation agenda and resulting shifts taking place in the South African higher and doctoral education landscape. Secondly, to account for some future prospects, we draw on the outcomes of the recent (2020/21) national review of doctoral programmes in South Africa. We highlight some recommendations that universities need to attend to via their respective doctoral improvement plans as a possible future agenda for driving and improving doctoral education.

**Keywords:** South Africa, doctoral education, apartheid legacy, transformation, national review

## **South African Higher Education – Topography and historical legacy**

The South African higher education (HE) system consists of 26 public universities as well as about 4<sup>1</sup> private higher education institutions, with public universities accounting for over 85% of all university enrolments (Department of Higher Education and Training, 2019a; 2019b). Universities in South Africa are relatively autonomous, with the national Department of Higher Education and Training (DHET) playing a steering role via policy and funding.

Prior to the country's democratic dispensation in 1994, the HE landscape was highly segregated along economic, racial and ethnic lines in terms of enrolments, programmes offered, government funding and even location (Bozalek & Boughey, 2012; Cooper & Subotzky, 2001; le Grange, 2009). The HE landscape comprised of universities and technikons (offering vocational qualifications) and the programmes offered depended on the racial and ethnic composition of the student body. Hence, historically black institutions and their feeder schools were highly under-resourced and located in low-income areas, with programmes designed to prepare the mostly black students to become labourers rather than professionals (Clark & Worger, 2016; Cooper & Subotzky, 2001; McKeever, 2017). As such, postgraduate education – and especially doctoral studies – was not an option for students from some racial groups. After 1994 two main challenges informed the African National Congress (ANC) government's plans for the transformation of the HE sector: redressing past inequities and supporting the country's economic competitiveness at a global scale (le Grange, 2009).

### ***Redressing past inequities***

Starting with the Education White Paper 3 focusing on transforming the South African HE system (Department of Education, 1997), a range of other policies and strategy papers emerged to guide the country's HE transformation imperative. These led to the re-structuring of public universities into three major types in 2004: traditional universities (mainly research-led), universities of technology (UoTs) (former technikons), and comprehensive universities (combination of a 'traditional' university with one or more UoTs). At traditional universities, about 60% of the student body are undergraduates, while at comprehensive universities and UoTs undergraduate students constitute over 80% of the student body. Only five South African universities combined produce almost 80% of all research outputs via postgraduate students and publications (Department of Higher Education and Training, 2019a; 2019b).

The Department also spearheaded a change in recruitment and admissions policies, thereby opening up physical access to all public universities. Despite the quantitative increase in student numbers, public university funding has decreased significantly over the last two decades, leading to an overreliance on student fees as the main income source for universities (Cloete, 2015; Universities South Africa, 2017). As a result, first-generation students from low-income families often rely on government loans to complete their undergraduate studies. Additionally, these are the same students who are under-prepared or 'differently prepared' for HE studies (Ndebele et al., 2013) as the primary and secondary schools they come from are still worryingly under-resourced. As such, the students who were set to benefit the most from open recruitment policies, have been the most negatively affected. If they do complete their undergraduate studies, they carry the burden of advancing their families financially while paying back exorbitant study loans (Herman, 2011). This has led to lower postgraduate numbers of South African students while the number of international students – most of them from other African countries – currently exceeds 40% of all postgraduate enrolments in public universities (Department of Higher Education and Training, 2019a; 2019b).

### ***Global responsiveness***

The second transformation imperative is related to becoming more responsive to the economic needs of the global market. The quest towards globalisation was initially driven by large corporate conglomerates and the ANC government through a number of economic policies and investments (Carmody, 2002; Salahuddin et al., 2020). There was also a clear recognition from government that innovation, knowledge and expertise were critical in supporting global economic participation (Department of Education, 1997). HE's role as a key driver of global competitiveness was highlighted in national innovation and research and development policies, while doctoral education in particular was well positioned to address this need. Currently, however, countries such as Slovenia (5%) and Switzerland (3%) are leading in terms of doctoral graduates compared to their populations, while South Africa comes in at below 0.01% (World Population Review, 2023).

The various policies, investments and industry partnerships have brought about significant positive changes to the South African economy. The World Economic Forum notes the country's well-developed financial industry, advanced transportation system and other business-related strengths, which place it as the second most competitive country in sub-Saharan Africa (World Economic Forum, 2019). In an earlier report the Forum noted that university and industry partnerships were responsible for the country's high innovation potential (World Economic Forum, 2012). Despite these major economic strides towards global participation, there are a number of issues potentially impeding transformation efforts in HE.

### ***Transformation challenges***

A leadership crisis plagues both national government and university structures. Systemic corruption at the national level, also known as ‘state capture’, has had a detrimental effect on transformation in real terms (Salahuddin, et al. 2020). Additionally, the recent governance track record of SA universities is poor. This was highlighted by disparities across the system and emphasised by challenges accompanying the Covid-19 pandemic. Poor institutional governance and management resulted in the appointment by DHET of independent assessors at 11 universities since 2000. Of these, seven public universities were placed under administration for a period of two years (Department of Higher Education and Training, 2019a).

Another issue is that South Africa is consistently ranked as the most unequal country in the world, topping a list of 164 countries on the World Bank’s global poverty database (Sulla et al., 2022). This results in a myriad of social issues (including corruption), and disparities in terms of access to basic human rights and services, as well as wealth distribution and ownership of assets (Statistics South Africa, 2019). While a number of drivers promote inequality, race has the biggest influence at 41%, followed closely by education at 30% (Sulla et al., 2022). And while university policies and government funding have attempted to level out the playing field for an increasingly diverse student body, inequality of students in HE remains rife at the level of financial support and access to facilities and resources.

These legacy-related challenges have significant implications for the transformation of HE and the systemic changes needed in the provision of doctoral education. The following sections will discuss some major changes and their implications.

### ***Doctoral education***

Doctoral degrees in South Africa are offered by 23 of the 26 public universities, as well as five private HEIs (National Review, 2022). The last decade has seen a doubling of annual doctoral graduates in South African universities from about 1400 in 2010 to over 3300 in 2021, but which compares unfavourably with countries such as Spain (over 12 000 doctorates per year) and difficult to compare with accurate data to other Sub-Saharan African doctoral outputs. This growth has been fuelled by mandates detailed in the country's National Development Plan (NDP) (National Planning Commission, 2012). In the first decade after democracy, transformation initiatives focused on equitable access to HE through redressing past racial imbalances. However, with the NDP's focus on development, there was a recognition that 'equity as redress alone was running counter to the demands for economic growth and youth employment' (Cloete et al., 2015, p. 15).

The NDP identified information and knowledge as the main drivers for the country's economic growth, and universities as central players in this new economy through teaching and research (National Planning Commission, 2012). In relation to doctoral education, the NDP called for an increase of doctoral graduates to about 5000 a year by 2030, and most of these in STEM disciplines. South African HEIs have responded positively and are well on their way to achieving this target. There was also a call to increase the percentage of academic staff with PhDs from 34% in 2012 to 75% by 2030 (National Planning Commission, 2012). This would result in an increase in postgraduate supervision capacity to support the increase in doctoral students. Additionally, there was a recognition in the NDP that 'the most important factor that determines quality [of education] is the qualifications of staff' (National Planning Commission, 2012, p. 318). Interestingly, the issue of quality has been one of the major criticisms of these NDP mandates, as discussed below.

Multiple objections were initially raised regarding these NDP mandates based on the history of doctoral education within the country (Cloete, 2015; Herman, 2017). However, we have observed interesting institutional and national responses over the last few years. These include increased national funding and programmes for academic staff to acquire their doctorates, particularly in institutions that have been historically disadvantaged. For instance, while at some established universities over 80% of academic staff have doctorates, some universities of technology remain below 50% (Lategan et al., 2023). There has also been a surge in the demand for postgraduate supervision training, with the majority of traditional universities setting up their own in-house programmes. Unfortunately, more doctoral candidates also meant that the supervision load has increased exponentially, especially for experienced doctoral supervisors.

One of the main concerns with the NDP mandate around doctoral education has been the aspect of quality assurance across all institutions. As such, a national review of all doctoral qualifications was instituted, and the next section discusses the process and some major outcomes of this review.

### ***The National Review of doctoral programmes***

Against the sketched background, the National Review (NR) of doctoral programmes took place between 2020 and 2021 with two main purposes: the first was to enable institutions to evaluate their quality assurance arrangements for the provisioning of doctoral programmes against a national benchmark standard; the second was to publish an evaluation report on the national state of doctoral provisioning in South Africa. Institutional contexts were deemed as of major significance insofar as they create the environments for doctoral studies.

The Council on Higher Education (CHE)<sup>2</sup> appointed a team of five senior academics to write the report which drew on peer panel reviews at 28 doctoral granting institutions. Published in 2022, the NR report provides a comprehensive composite national picture of doctoral studies and qualifications based on all the institutional review panel reports. It also includes, in respect of each section of the issued threshold standards, an appropriate summation of all institutional reports, as well as an overview of emergent findings and incorporating features such as strengths, shortcomings, concerns and constraints. Many of these link directly or indirectly to the legacy issues previously referred to.

The NR report offers several recommendations with the potential of becoming a key driver in advancing the general quality of South African doctoral qualifications. While acknowledging that the review was conducted under Covid-19 lockdown regulations, creating logistical and other challenges, it adhered to pre-arranged schedules, ensuring that the shift from the originally planned physical to virtual site visits did not compromise the integrity of the process.

A total of 23 recommendations emerged from the NR of which eighteen are directed at institutions and five at the HE-sector in general. Institutional level recommendations include issues such as building supervisory capacity, decreasing doctoral completion times, promoting doctoral attributes, assessing doctoral outcomes, and coordinating institutional sections dealing with doctoral education. Systemic issues include considering the socio-economic challenges of doctoral candidates, co-ordinating the development of supervisory capacity, setting and adhering to programme standards and ensuring student preparedness for undertaking doctoral work.



Following the findings and recommendations of the NR, all participating institutions had to submit improvement plans to the CHE. This resulted in submitting periodic institutional progress reports to the CHE which monitors implementation towards successful conclusion.

To illustrate some prospects for future agenda-setting in doctoral education we next highlight two major agenda issues put forward by the NR – embedding doctoral attributes in research education and enhancing supervisory capacity and quality.

### ***Doctoral attributes***

The set NR threshold standard for doctorates identifies two categories of graduate attributes to be attained and evidenced in order for a doctoral qualification to be awarded (National Review, 2022, p. 22). The first category comprises ‘knowledge attributes’ which relate to the original contribution of a study, the extent to which a contribution is integrated within existing literature and academic debate, the extent to which a graduate is able to demonstrate expert and highly specialised knowledge within a specific area of research, the ability of the graduate to identify the interconnectedness of their work with other fields of study and practice, and the extent to which the graduate is able to demonstrate ethical awareness. In addition, doctoral students are expected to understand the epistemological process of giving meaning to empirical observation.

The second category involves ‘skills attributes’ as they relate to the selection and application of the most appropriate research approaches and methods to answer or solve research problems, the extent to which graduates are able to work independently, substantiate and defend their findings and conclusions, reflect on the various stages of the research process critically, and demonstrate critical and analytical thinking in a clear, coherent, and logical

manner. Much like the acquisition of knowledge attributes, the development of skills attributes already starts at a study's proposal phase.

The National Review (2022, p. 23) noted that while promoting graduate attributes were embraced by most institutions, a few universities offered a critical response, arguing that 'the desired attributes are not objective and neutral'. They argue that, on the contrary, doctoral attributes emerge within particular contexts such as disciplines or fields of study and are acquired by students as social, cultural and psychological actors. A concern was also noted that the assessment of doctoral attributes at different stages of a study is often left to the discretion of academic units and fails as an institutional concern. The following recommendation was thus offered: 'All institutions should have programmes in place whereby regular workshops, colloquia and seminars, and platforms like communities of practice, are organised to offer doctoral students opportunities to present their work and exchange ideas at regular intervals (where appropriate) during their doctoral journey' (p. 24).

Furthermore, most institutions view doctoral attributes (such as producing original work) as being inculcated from the early stages of doctoral studies through to the final assessment. Strategies recognised include, amongst others, requiring students to demonstrate and defend their anticipated original contribution to the field of study during proposal preparation, defending the proposal, defending a thesis, and disseminating its findings.

However, some universities have claimed that the 'originality' attribute can be equally well demonstrated in forums such as journal clubs and helping candidates to identify gaps in the literature, thereby fostering a potential knowledge contribution; or through a pre-proposal 'concept' note; or through publication before examination of the thesis. A recommendation like the following thus emerged: 'Institutions should incorporate in their doctoral training, of

both supervisors and students, clear conceptualisation of the originality attribute as located within institutional context, structures, and the nature of disciplinary specialisations’ (p. 26).

Such examples emphasise the importance for universities to ensure that doctoral attributes are promoted, assessed and, in particular, reflected in their quality development plans, strategies and activities. We now turn to another issue highlighted by the NR, namely doctoral supervision.

### ***Doctoral supervision***

In discussing the enrolment of doctoral candidates, the NR report points out the importance of institutional processes ensuring that ‘adequate supervisory capacity and expertise is available, so that students are given optimal opportunities for development and success’ (2022, p. 34). This issue surfaces again later in the report where it is acknowledged that the ‘[A]vailability of appropriately qualified supervisors is a challenge for many institutions, where significant proportions of the academic staff complement many not hold doctoral degrees themselves and are therefore not qualified to supervise doctoral students...’ (National Review, 2022, p. 41).

The lack of qualified study supervisors is especially true of private institutions but also for universities of technology. And where there is a lack of appropriately qualified supervisors, it becomes an even bigger challenge to appoint more than one suitable supervisor for a doctoral student. This can result in high student to supervisor ratios and heavy supervision loads for some staff members. The National Review (2022, p. 42) thus further highlights that ‘[F]ew institutions reported having clear guidelines as to what an appropriate supervisory workload is...’, and furthermore, that at some institutions, a significant percentage of aptly qualified academic staff, i. e., those with a doctorate, ‘would appear to be not involved in any doctoral supervision at all’.

Institutions have reported on having workload models in place, which include doctoral student supervision and graduation metrics, but some universities have gone as far as directly incentivising supervisors for doctoral completions. The unintended consequences of incentivising doctoral supervision such as providing direct monetary rewards for doctoral completions impacts negatively on doctoral quality and promotes the so-called ‘numbers game’ (National Review, 2022, p. 42). The NR also found that ‘[T]he processes for allocation and appointment of supervisors are highly variable across, and within, institutions’ (National Review, 2022, p. 43).

Reasons for the lack of supervisory capacity at some (if not many) South African universities has been alluded to earlier in this article. It therefore comes as no surprise that the NR report makes scant mention of examples of team supervision and co-supervisory practices at universities. The most common model for supervision in almost all universities is still the one-to-one or apprenticeship model, and the NR report (National Review, 2022, p. 34) highlights the importance of institutional processes that ‘ensure that adequate supervisory capacity and expertise is available, so that students are given optimal opportunities for development and success’. It also acknowledges that the apprenticeship model ‘can lead to challenges in terms of power dynamics between supervisor and student, which can be exacerbated by differences in background or culture’ (p. 34).

Specific conditions whereby doctoral supervision may be supported, especially in the case of early career supervisors, were also highlighted. For instance, in doctoral studies that are of a highly technical nature, or closely related to industry or business, experienced internal or external supervisors may assist to provide for additional expertise and mentoring. In tandem, the NR report recognises that in cases where interdisciplinary, multidisciplinary, or transdisciplinary research is involved, one supervisor seldom has the breadth of expertise to

provide adequate guidance. There is thus ‘a clear need for approaches where supervision can be provided by a team or panel that can bring a range of expertise and viewpoints to support students’ (2022, p. 44). This ties in well with international findings (Johansen et al., 2019, p. 72) which conclude: ‘...a diversity in academic competencies is regarded as complementary for the interactions within supervisory teams and, hence, perceived as an advantage’.

## **Conclusion**

We have outlined some issues of the continuing complexity of legacies from the apartheid era in South Africa, impacting on higher education and doctoral education alike. We have also pointed out that, since political democracy in 1994, challenges have been addressed to some measure, while progress was hampered by a lack of capacity, mismanagement, and underfunded doctoral programmes. The national review of doctoral programmes, with its recommendations and ongoing reporting on progress, provides for a potentially new era and new prospects for doctoral education in South Africa. It may even serve as one of the main drivers for doctoral quality across the higher education sector.

We end with five points arguing for a possible current and future agenda for promoting doctoral education and research related to doctoral education in South Africa:

- Firstly, we argue for the development of policies and practices for the attainment of doctoral attributes. Identifying and attaining doctoral attributes across the South African higher education system is being considered essential for quality promotion in doctoral studies. The importance of doctoral quality and its relation to doctoral attributes was emphasised by the National Review (2022). All universities thus need to look more seriously into how such attributes can be incorporated into all doctoral education offerings. A lack of such efforts will increasingly place question marks on

doctoral processes such as doctoral support, the quality of doctoral examinations and the real impact of doctoral degrees.

- Secondly, we propose that promoting the capacity and provision of doctoral supervision are key to an improved and sustainable doctoral education system. In view of the rapid increase in doctoral graduations within the next ten years, sufficient numbers of qualified supervisors are essential. Academic staff with doctoral qualifications, proper induction into doctoral supervision and exposure to supervisory experience all seem to have a key role to play here.
- The proper funding of higher education, and doctoral education in particular, is essential for the much-needed expansion of the number and quality of doctoral graduates and supervisors. We thus argue, as a third focal point, that grants for doctoral studies, institutional and external funding opportunities should be made available and known to potential doctoral candidates. This also includes proper funding for doctoral supervision development. However, we also want to caution against promoting the number of doctorates for the mere sake of having them. At a supervision workshop recently, several postdoc participants referred to unmet promises of employment upon graduation. Together with a general high unemployment rate in South Africa (officially almost 30%), the cost of doctoral education and the availability of academic positions, the plight of qualifying and qualified doctoral graduates should be seriously monitored.
- Given the apartheid legacy, equity in doctoral study opportunities, especially regarding the inequalities and wasted opportunities of the past, should remain a priority. This is a fourth point of emphasis. Historically, many South African citizens had been denied quality university education and many have become late entrants into research and doctoral studies. We would suggest special attention of universities and national higher

education authorities to this issue by providing and promoting late career opportunities, proper support and enculturation into doctoral and postdoctoral provision.

- Since the quality of doctoral degrees is unnegotiable, our fifth and final point is the proper monitoring, assessment, and examination of doctoral work at all universities. Such measures should be an inseparable and ongoing part of doctoral quality and has to include, we argue, that all South African universities make oral examinations part and parcel of their doctoral programmes. Since issues related to ethics, authentication, fraud and nepotism have also appeared in higher education research degrees, apt measures and preventative education should be introduced to root out those issues that may potentially compromise the guaranteed quality of South African doctoral qualifications.

To sketch the South African doctoral education scene in relation to its past legacies and recent developments is challenging as the picture is highly complex and continuously changing. In addition, South Africa remains a complex country made up of pockets of wealth and poverty, excellence and poor quality, established and recently established universities, well-managed and poorly managed environments as well as diverse layers of social, economic, cultural and language issues. However, by drawing on relevant literature, policy documents, findings from previous and recent reports, as well as learning from our observations, experiences and reflections we hopefully have arrived at a few informative perspectives. Admittedly, our perspectives are from two authors only and should be broadened and deepened as the doctoral education debate and research on doctoral education in South Africa continues.

## **Footnotes**

1. The number of private higher education institutions (HEIs) has been included here in order to give a snapshot of the country's HE landscape – otherwise we focus on just public HE in this

paper. These private HEI numbers are as of the 6<sup>th</sup> of October 2022 (<https://www.dhet.gov.za/SitePages/DocRegisters.aspx>).

2. The CHE is a statutory body enacted through the Higher Education Act 1997. It plays an advisory role to the Minister of Higher Education, monitors quality assurance, promotes student access to higher education and publishes reports on the state of, and developments in, higher education.

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

### **Notes on contributors**

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