LEADING ARTICLE

PROMOTING ACCESS TO, AND SUCCESS IN POSTGRADUATE EDUCATION IN SOUTH AFRICA: A SYNTHESIS OF EMERGING ISSUES

A. Saidi
Research, Monitoring and Advice
Council on Higher Education
Pretoria, South Africa

ABSTRACT

This article evinces that policies and plans at the national level in South Africa recognise the importance of postgraduate education within the broader national education and training system, and that they place particular emphasis on promoting access to, and success in postgraduate education as one of the priorities on the country's development agenda. It identifies and discusses ten issues that have a bearing on the national policies, plans, programmes and initiatives aimed at promoting access to, and success in postgraduate education. These issues emerge from the analysis, triangulation, and interpretation of sets of information and data obtained from multiple projects focusing on postgraduate education, that the Council on Higher Education has implemented since 2018. They are therefore referred to as "emerging issues". They include the relatively small size of the postgraduate component of higher education, the pyramidal structure of the distribution of students across the different levels of postgraduate education, and the offsetting of the increase in the numbers of graduates produced at all levels of postgraduate education, by a corresponding increase in the numbers of students taking longer to complete their studies than the periods stipulated by the institutions, and by relatively high dropout rates. Other issues are about transformation, student funding, inadequate supervisory capacity, under-preparedness of students, and lack of adequate support services for postgraduate students. The article sets the scene for, and context of the other articles contained in this special issue of the South African Journal of Higher Education, and prepares the readers to understand and appreciate the contents of those articles.

Keywords: access, emerging issues, postgraduate education, promoting, public universities, success

INTRODUCTION

During the first two decades of the existence of the Council on Higher Education (CHE), its work had a particular focus on the undergraduate section of higher education and less on the postgraduate section. The reasons for this were that undergraduate programmes and students

constituted about 90 per cent of the higher education system, and the undergraduate section also faced the bulk of the challenges that needed urgent attention (CHE 2014; 2015). Although most stakeholders understood this reasoning, some were not convinced that paying less attention to postgraduate education was serving the country's higher education system well. As early as 2001, the then Department of Education planned to request the Higher Education Quality Committee (HEQC) of the CHE to consider including on its list of priorities the undertaking of national reviews of some postgraduate programmes (DoE 2001). Between 2016 and 2020, more stakeholders increasingly made use of the CHE workshop and/or conference feedback forms to express the views that it would be important for the CHE to become as equally active in postgraduate education as it had been in undergraduate education, arguing that the quality of postgraduate education has a bearing on the quality of undergraduate education, and *vice versa*, because the two are inextricably linked. Undergraduate education prepares students for, and "feeds" them to postgraduate education, and the latter produces the academics who teach at undergraduate level, as well as the academic managers who manage the entire value chain of the undergraduate programmes. This inextricable link between the two sections of higher education meant that initiatives to focus on one without the other, could be counterintuitive.

Since 2018, the CHE has purposefully responded to the concerns expressed by the stakeholders by initiating and implementing several projects focused on postgraduate education. It developed and published the *Qualification Standard for Doctoral Degrees* in 2018 (CHE 2018), and between 2020 and 2021, it conducted a national review of doctoral qualifications offered by South African higher education institutions, examining the extent to which the doctoral qualifications of the participating institutions met the national minimum requirements stipulated in the *Qualification Standard for Doctoral Degrees* (CHE 2022a). Later in 2022, the CHE published the *Review of Higher Education in South Africa Twenty-five Years into Democracy*, with one of the chapters focusing on research and postgraduate studies (CHE 2022b). Furthermore, the CHE compiled and published a *Supplement to VitalStats 2020* presenting data on postgraduate students and research (CHE 2022c). During the first quarter of 2023, the CHE organised a conference on the theme: *Promoting Access to, and Success in Postgraduate Studies*. Eighty research papers and four keynote addresses focusing on issues germane to the promotion of access to, and success in postgraduate studies, were presented and discussed at the conference. There was also a panel discussion on the recommendation of the national review of the doctoral qualifications for *viva voce* examinations to be institutionalised across the higher education system in South Africa (CHE 2023a). Earlier in 2022, the CHE had commissioned a study to examine the changing size and shape of postgraduate programmes offered by public universities in South Africa, whose report was finalised in 2023 (CHE 2023b).

The initiatives and projects referred to in the preceding paragraph generated rich sets of information and data on access to, and success in postgraduate education in South Africa, and on other matters that have a bearing on postgraduate education. The mining, processing, analysis, triangulation, and interpretation of these sets of information and data resulted in the identification of key issues that shape the narrative about the state of postgraduate education in South Africa three decades into democracy, with particular emphasis on access and success. In this article, these are referred to as "emerging issues" because they emerged from the process of mining, processing, analysis, triangulating and interpreting the multiple sets of information and data as indicated.

The aim of this article is to present and briefly discuss the emerging issues, focusing on their possible impacts on national policies, plans, programmes and other initiatives that are intended for developing postgraduate education in this country. The article also seeks to set the scene for, and broader context of the other articles published in this special issue of the South African Journal of Higher Education (SAJHE). These articles are a select few from the eighty research papers presented and discussed at the March 2023 conference organised by the CHE. However, before proceeding with the presentation and discussion of the emerging issues, the article contextualises postgraduate education by explaining what it entails, and its value to society; and by providing a brief overview of the positions articulated in policies and plans at national level regarding promoting access to, and success in postgraduate education.

POSTGRADUATE EDUCATION IN CONTEXT

The value of higher education in democratic South Africa has been comprehensively articulated by, among others, the Council on Higher Education (CHE 2004a) and the national Department of Education in the post-apartheid South Africa (DoE 1997), and it is not necessary to overemphasise it here. However, as scholars such as Whitty and Mullan (2014) point out, often when arguing the case for higher education there tends to be an overemphasis on the undergraduate section, and less emphasis on the postgraduate section. This is justifiable in developing countries with limited resources, and which, therefore, place priority on developing the undergraduate section first in order to provide a solid base for, and a firm anchor of the broader higher education edifice (Oraștirmasi 2016). Nevertheless, postgraduate education is an equally significant part of higher education, and perhaps one with more fundamental influence on global economies, health, governance and social justice, and it should therefore not be "overlooked and forgotten" (Whitty and Mullan 2014).

Postgraduate education is a part of higher education comprising of study programmes which ordinarily require one to hold a Bachelor's degree or its equivalence as a prerequisite,

and which lead to qualifications that are regarded as higher in stature than a Bachelor's degree or its equivalence (Sastry 2004; Rudd 1984). In South Africa, postgraduate education leads to qualifications at levels 8 to 10 on the Higher Education Qualifications Sub-Framework (HEQSF) of the National Qualifications Framework (NQF). These qualifications are postgraduate diploma, honour's degree, master's degree, and doctoral degree (CHE 2013).

The HEQSF (CHE 2013) posits that the primary purpose of a postgraduate diploma is to enable practicing professionals to develop their reflective competencies through the analysis of contemporary theoretical perspectives in a discipline, coupled with empirical research methods applicable within the particular discipline. In addition, a postgraduate diploma programme intends to develop students' understanding of how knowledge in a particular discipline could be applied to different real-world contexts. Though not a requirement, studies towards a postgraduate diploma may include a supervised research project leading to an examinable research report. Similarly, the HEQSF (CHE 2013) posits that the primary purpose of an honour's degree is to prepare students for research-based further studies that lead to higher qualifications. It is meant to consolidate and deepen students' knowledge in a particular field, and to develop their understanding and application of research methodologies in a specified field of study. The main purpose of a master's degree is to develop students' abilities and capabilities to generate new knowledge, or to refine and/or update existing knowledge, and to apply new and existing knowledge to real world societal issues, through research and development (CHE 2013). A doctoral degree is the apex postgraduate qualification whose purpose is to prepare students to work independently in the processes of using cutting edge theoretical perspectives and empirical research methodologies to push the frontiers of knowledge, as well as to develop scholarship capabilities in specified fields (CHE 2013).

It is clear from the preceding paragraph that postgraduate education is mainly about developing students' abilities and capabilities to conduct sound research leading to the generation of new knowledge and/or refinement of existing knowledge; to engage in scholarship work; to develop innovations; and to apply newly generated or refined existing knowledge to assist in developing better understanding of the world, and in tackling challenges facing humanity, as well as challenges facing the socio-ecological systems on which humanity depends for sustenance (Phillips 1980; Ponte 2007). This centrality of research and scholarship in postgraduate education has led some scholars to suggest that it should be referred to as "research education" (Lategan 2019).

At a more practical level, postgraduate education prepares students for careers in research, innovation and knowledge transfer, and most postgraduate students enrolled for master's and doctoral degrees, for example, contribute significantly to research outputs of the universities,

they are affiliated to, even before they complete their studies and graduate (Mouton et al. 2019; Sinha and Crewe 2022; Walford 2006). It is for this reason that postgraduate education is generally considered as the driver of the knowledge economy, and of the Fourth Industrial Revolution (Butler-Adam 2018; Penprase 2018). Studies have demonstrated that holders of postgraduate qualifications make good captains of industry, technical leaders, managers of complex systems, community builders, and thought leaders in their respective fields. Consequently, organisations and/or institutions in key sectors of the global economy make postgraduate qualifications a critical requirement for appointments to key positions. The organisations and/or institutions also compensate handsomely employees who hold postgraduate qualifications (Boneva, Golin, and Rauh 2022; Almeida et al. 2017; Lindley and Machin 2011).

In addition to contributing to the development of global economies as summarised above, postgraduate education is also critical in sustaining the higher education system of any nation because it prepares interested individuals for academic careers. A sustainably vibrant undergraduate education depends mainly on an equally vibrant postgraduate education to continuously produce graduates to take up academic careers (Ion and Iucu 2016; Freeston and Wood 2015; MacDougall 2015; Lindsay, Breen, and Jenkins 2002). Across the world, holding postgraduate qualifications is a key requirement for appointment to academic positions, and for teaching in undergraduate programmes (McLinden, Edwards, and Garfield 2015; Healey and Jenkins 2009a). This requirement is a tenet of quality in higher education and in South Africa, for example, the CHE requires institutions to demonstrate that they have in place staff with postgraduate qualifications to teach in undergraduate programmes, in order for the programmes to be accredited (CHE 2004b).

Not to be underestimated is the contribution that postgraduate education makes towards entrenching a culture of inquisitiveness, creating and entrenching academic climates characterised by free and open debate, and creating and sustaining institutional environments and culture based on tolerance, respect and social justice (Ponte 2013). Whitty and Mullan (2014), among other scholars, believe that postgraduate education has been central in driving the evolution of cultures, and the development of free and tolerant societies across the world.

It follows from the foregoing that postgraduate education is of critical importance to any nation aspiring to participate actively in the global knowledge economy, and the Fourth Industrial Revolution; to create and sustain vibrant higher education systems with quality-focused undergraduate sections; to create academic climates characterised by free and open debate, and institutional environments and culture based on tolerance, respect and social justice; and to drive cultural change, as well as develop and entrench free, democratic and tolerant

societies (Tikhonova 2023). For these reasons, postgraduate education should always be a priority for promotion and advancement, and nations that "overlook and forget" postgraduate education in their development planning and funding, do so at their own peril (Whitty and Mullan 2014).

Fortunately, South Africa has, at national policy and development planning levels, identified postgraduate education as a priority area for targeted interventions to spur its development. The Education White Paper 3 (DoE 1997), for example, identified the expansion of postgraduate programmes, and the increase in postgraduate enrolments, as priority areas for interventions with a view towards addressing shortages in high-end skills that are necessary for steering national socio-economic development. The White Paper also expressed the intention to support and assist the expansion of postgraduate studies in institutions that demonstrate to have the necessary capacities and capabilities. Similarly, the National Plan for Higher Education (DoE 2001) committed that government would support the carefully planned increase in postgraduate programmes and qualifications, taking into consideration availability of supervisory capacity and other requisite resources. To this end, it also committed that the Department of Education would request the HEQC of the CHE to expedite the accreditation of new postgraduate programmes that met the minimum criteria for accreditation, and to prioritise the national review of postgraduate programmes as part of its routing quality assurance regimen. The National Plan further committed that government would utilise various funding and planning instruments to increase enrolments and graduates at postgraduate level (DoE 2001).

The White Paper on the Post-School Education and Training (DHET 2013) articulated policy positions on postgraduate education that are similar to those articulated in the Education White Paper 3 (DoE 1997). It identified postgraduate education as one of the four areas within the post-school education and training (PSET) system that would be prioritised for expansion – the other three being general education and training, vocational education and training, and professional education and training. In particular, it identified an urgent need for increasing enrolments and graduates at master's and doctoral levels of postgraduate education (DHET 2013). The National Post-School Education and Training Plan: 2021 – 2030 (DHET 2021) identified improving teaching and learning at postgraduate level, and supporting institutions to diversify their postgraduate offerings to include professional programmes such as the professional master's and professional doctorate programmes, as some of the priority areas for planned interventions during the period from 2021 to 2030.

The National Development Plan (NDP) (National Planning Commission 2012) also identified growth in enrolments and graduates at postgraduate level as a key developmental thrust with a bearing on the broader national development imperatives. To this end, it articulated

some specific interventions to be implemented, and set targets to be achieved by 2030. These targets are (a) to increase the number of postgraduate students studying for master's and doctoral degree to reach 25 per cent of the total student population in higher education by 2030; (b) to increase the number of doctoral degree graduates produced per year to one hundred per million people by 2030; and (c) to increase the percentage of academic staff in public universities that hold doctoral qualification to 75 per cent by 2030. It is important to note that the second target is often restated as to increase the number of doctoral degree graduates produced per year to 5 000 by 2030.

The ensuing sections present and discuss issues that are emerging from the process of mining, analysing, triangulating, and interpreting the sets of information and data from multiple sources, and indicated earlier. The focus is on postgraduate education in public universities because enrolments of postgraduate students in private higher education institutions remain relatively small. Furthermore, there are challenges of availability, comprehensiveness and quality of data for the private higher education sector (Singh 2022).

SIZE OF THE POSTGRADUATE SECTION OF HIGHER EDUCATION

In 1995, when South Africa was one year into democracy, the total headcount of students enrolled in public universities was 369 029. Out of this number, 70 372 or 19 per cent were enrolled for postgraduate qualifications (CHE 2004a). The total headcount of students enrolled in public universities continued to increase thereafter to reach 715 809 in 2005, 865 492 in 2010, 963 651 in 2015 and 1 085 733 in 2020. Similarly, the headcount of students enrolled for postgraduate education continued to increase to reach 115 189 in 2005, 138 610 in 2010, 159 182 in 2015, and 160 244 in 2020 (CHE 2023b). However, when the headcount numbers of postgraduate students are analysed as proportions of the total student population in public higher education, then a different picture emerges. Postgraduate students constituted 19 per cent of the total higher education student population in 1995. In 2005, the proportion of postgraduate students to the total higher education student population declined to 16 per cent. The decline was mostly as a result of the discontinuation and/or reclassification of some previous postgraduate qualifications such as the former "postgraduate Bachelor's degrees", as well as the discontinuation of the practice of enrolling "occasional" postgraduate students for "non-degree purposes" (CHE 2023b). The proportion of postgraduate students to the total higher education student population stagnated at 16 per cent during the fourteen-year period between 2005 and 2019, but declined marginally to 15 per cent in 2020 because of the impact of the Covid-19 pandemic as travel restrictions reduced enrolments of postgraduate students from outside the country.

The figures in the preceding paragraph indicate that the postgraduate component of higher education has remained relatively small, at less than a quarter of the broader public higher education sector. It stagnated at 16 per cent during the fourteen-year period between 2005 and 2019, before dropping marginally to 15 per cent in 2020. By comparison, in 2013 the United Kingdom had 23 per cent of its higher education students as postgraduates, and in 2014 Australia had 23 per cent of its higher education students as postgraduates (Bunney 2017). Not only is South Africa lagging behind countries such as the United Kingdom and Australia in terms of the size of its postgraduate component relative to its undergraduate component of higher education, but it is also not near the NDP target of having a quarter (25%) of its total student population as postgraduate students by 2030. Considering that 2030 is only six years away, it therefore appears less likely that this NDP target could be achieved.

The relatively small size of the postgraduate section of higher education in South Africa means that the country is not able to leverage the full potential contribution that postgraduate education can make to the social, economic and cultural development in the country. Considering that government made commitments in the national plans and policy documents to significantly grow postgraduate education in the country, as discussed earlier, the fact that it remains relatively miniscule suggests that either the commitments have not been followed through fully, or that the instruments used to promote and grow postgraduate education have not been working well.

STRUCTURE OF THE POSTGRADUATE COMPONENT OF HIGHER EDUCATION

As indicated earlier, in South Africa, postgraduate education leads to qualifications at levels 8 to 10 of the HEQSF, with postgraduate diploma and honour's degree at level 8, master's degree at level 9, and doctoral degree at level 10 (CHE 2013). In 1995, a total of 28 398 postgraduate students were enrolled for postgraduate diplomas/honour's degrees, making 40.4 per cent of that year's total postgraduate student population. Postgraduate students enrolled for master's and doctoral degrees totalled 21 880 and 4 986 respectively (CHE 2004a), translating into 31 per cent and 0.07 per cent respectively, of the total postgraduate student population for that year. In 2002, a total of 51 029 postgraduate students were enrolled for postgraduate diplomas/honour's degrees, translating into 49.2 per cent of the total postgraduate student population for that year. Postgraduate students enrolled for master's and doctoral degrees totalled 36 282 and 7 454 respectively (CHE 2004a), translating into 35 per cent and 0.07 per cent respectively, of the total postgraduate student population for that year. It therefore appears that during the first decade of democracy, the postgraduate component of higher education displayed the structure of a pyramid with a broader base (large contingent of students enrolled

for postgraduate diplomas or honour's degrees), medium-sized middle (smaller but sizeable contingent of students enrolled for master's degrees), and a thin apex (small contingent of students enrolled for doctoral degrees).

The data for the second and third decades of democracy indicate that the postgraduate component of higher education maintained its pyramidal structure. Students enrolled for postgraduate diplomas/honour's degrees constituted 47 per cent of all postgraduate students in 2005, 50 per cent in 2010, 43 per cent in 2015 and 45 per cent in 2020. On the other hand, postgraduate students enrolled for master's qualifications constituted 45 per cent of all postgraduate students in 2005, 40 per cent in 2010, 42 per cent in 2015, and 40 per cent in 2020; while the corresponding proportions for postgraduate students enrolled for doctoral qualifications were 10 per cent in 2005, 10 per cent in 2010, 15 per cent in 2015, and 16 per cent in 2020 (CHE 2023b).

In committing to grow postgraduate education in South Africa, the national plans and policy documents discussed earlier made particular emphasis on the priority to increase enrolments and graduates at master's and doctoral qualification levels. This emphasis was informed by the understanding that graduates at the two levels would be expected to possess the high-end skills and competencies required for the knowledge economy and the Fourth Industrial Revolution (Butler-Adam 2018; Xing, Marwala, and Marwala 2018). Similarly, master's and doctoral degree graduates are the ones who can easily develop into proficient researchers, scholars, innovators, and captains of industry (Boneva et al. 2022; Almeida et al. 2017; Lindley and Machin 2011; McLinden et al. 2015; Healey and Jenkins 2009b). Therefore, the fact that during most of the years over the three decades, postgraduate students enrolled for master's and doctoral qualifications have constituted less than 50 per cent of all postgraduate students should be a matter of concern.

A study commissioned by the CHE suggested that some students register for honour's degrees simply to remain within higher education while looking for employment, and once they secure employment they do not proceed to enrol for master's degrees (and later for doctoral degrees). The same study suggested that most of those who enrol for postgraduate diplomas do so mostly with the view to use postgraduate diplomas as the gateway to specific careers – for example, Bachelor of Science or Bachelor of Arts (General) graduates may enrol for postgraduate diploma in Museum and Heritage Studies to break into careers in museum and heritage management. Hardly do students enrol for postgraduate diplomas as a pathway to research master's and doctoral degrees (CHE 2022d). It follows then that, by and large, enrolment for honour's degrees and postgraduate diplomas are for reasons that are not related to articulating and progressing towards master's and doctoral qualifications. This partially

explains the pyramidal structure of enrolments at different levels of postgraduate education.

The above notwithstanding, it is important to recognise the fact during the three decades, enrolments for doctoral qualifications increased from 4 986 in 1995 to 7 454 in 2022 (CHE 2004a), and continued on its upward trajectory to 9 434 in 2005, 11 590 in 2010, 19 513 in 2015, and 23 588 in 2020 (CHE 2023b). In other words, there was a six-fold increase in the headcount of postgraduate students enrolled for doctoral qualifications between 1995 and 2020, which is not an insignificant increase. This suggests that, while the increase in the headcount of postgraduate students enrolled for doctoral qualifications over the three-decade period cannot be regarded as sufficient, it cannot be regard as insignificant either. Based on this, it is clear that the 'planning and funding levers' that the government committed in national plans and policy documents that it would employ to promote access to postgraduate education (DoE 1997; 2001; DHET 2013; 2021) have had some positive effects, albeit not to the desired extent.

It is important to note at this stage that the human capital development programmes of the Department of Science and Innovation, and its agencies, particularly the National Research Foundation (NRF), though not mentioned in the national policies and plans discussed earlier, contributed significantly towards promoting access to postgraduate education at doctoral level (DST 2019). In particular, the South African PhD Project, conceptualised and implemented by the NRF during early 2000s produced some encouraging results. Among the project's main activities were providing financial sponsorship, mentorship, and coaching services to doctoral students. The project also used to convene an annual conference which used to bring together existing and potential doctoral students, those in full-time employment, entrepreneurs and other individuals to interact with postgraduate studies' officials from universities, local and international funding agencies, and corporate sponsors. It also used to provide doctoral graduates opportunity to interact with one another, sharing their experiences on the otherwise "lonely journeys" towards obtaining doctoral qualifications. Furthermore, the annual conference used to serve as a platform for recruiting students for doctoral programmes for various universities. Although the South African PhD Project was discontinued before the target year of 2025, the NRF believed that it was an initiative that met most of its objectives (NRF undated; 2010).

SUCCESS AS INDICATED BY GRADUATES PRODUCED

In 1995, 21 572 postgraduate students successfully completed their studies. During the following five years, the numbers of graduates produced fluctuated between 21 291 in 1998 and 23 182 in 2000. Thereafter, there was a steady upward trajectory in the numbers of graduates produced from 25 092 in 2001 to 30 803 in 2005 (CHE 2009), and to 50 356 in 2020

(CHE 2023b). As with the increase in the headcount of students enrolled for postgraduate qualifications, the growth in the numbers of master's and doctoral graduates had been more pronounced than the growth in the numbers of those graduating with diplomas or honour's degrees. For example, the number of master's degree graduates more than doubled during the ten-year period between 1995 (3 901 graduates) and 2005 (7 881 graduates) (CHE 2009), and it nearly doubled again during the fifteen-year period between 2005 and 2020, to reach 12 992 graduates in 2020 (CHE 2023b). Similarly, the number of doctoral graduates almost doubled during the ten-year period between 1995 (679 graduates) and 2005 (1 176 graduates) (CHE 2009). The number of doctoral graduates increased further by threefold during the fifteen-year period between 2005 and 2020 to reach 3 552 in 2020 (CHE 2023b).

The overall picture emerging from the figures presented in the preceding paragraph is that the postgraduate component of higher education in South Africa is registering increases in the numbers of postgraduate students who are successfully completing their studies and graduating. The year-to-year increases are more pronounced at the master's and doctoral qualification levels, which is consistent with the level of priority that the national plans and policy documents reviewed earlier accorded to increasing access to, and success in postgraduate education at master's and doctoral levels. Furthermore, with the 3 552 doctoral graduates that were produced in 2020, and considering the significant year-to-year increases in the output of doctoral graduates witnessed over the last two decades, it appears increasingly likely that the NDP target of producing 5 000 doctoral graduates annually by 2030 would not only be achieved, but possibly exceeded. On this account, it would appear that more postgraduate students are succeeding in their studies. However, it should be understood that this is at an aggregate level, using the entire postgraduate section in the country as the unit of analysis.

SUCCESS AS INDICATED BY COMPLETION OF STUDIES IN STIPULATED TIME

The HEQSF has stipulated the minimum amount of credits that students are required to obtain in order to meet the requirements for the conferment of the different higher education qualifications. For a postgraduate diploma, the minimum amount of credits is 120, and the same applies for an honour's degree. The minimum amount of credits for a master's degree is 180, and for a doctoral degree it is 360. Institutions may, nevertheless, design, develop and offer programmes at these levels with credits that exceed the stipulated minimum amounts by no more than fifteen percentage points (CHE 2013). As a credit is earned after ten notional hours of learning, institutions have converted the stipulated credit load for qualifications into stipulated periods for students to complete their studies towards the respective qualifications. These stipulated periods are one academic year for a postgraduate diploma, one year for an

honour's degree, two academic years for a master's degree, and three academic years for a doctoral degree.

In the year 2000, on average, master's degree students took 3 years to successfully complete their studies (CHE 2009) against the stipulated period of 2 years for the same qualification. It was more or less the same in 2005 as, on average, master's degree students took 2.9 years to successfully complete their studies (CHE 2009) against the stipulated period of 2 years. However, it appears that after 2005 students started to take much longer to complete their master's degree studies such that by 2020, on average, students took 3.56 years to successfully complete their studies towards a master's degree (CHE 2022c). Similarly, while, on average, postgraduate students took 4.6 and 4.7 years to successfully complete their studies towards a doctoral degree in 2000 and 2005, respectively (CHE 2009), the average period it took students to successfully complete studies towards the same qualification had increased to 5.21 years in 2020 (CHE 2022c). It follows then that on average, postgraduate students at master's and doctoral levels are increasingly taking longer time to successfully complete their studies than the stipulated periods of completion.

When students take longer than the periods stipulated by their institutions to complete their postgraduate studies, institutions experience a "pile up effect", a phenomenon of students remaining in the system longer than planned by the individual institutions (CHE 2009). The "pile up effect" compels institutions to either enrol fewer new first time entering students, or to exceed their "carrying capacities" for postgraduate students, which results in excessive pressure being exerted on the relevant resources available, and thereby compromising the quality of provision of postgraduate education.

It is clear then that when success is measured in terms of the time that postgraduate students take to successfully complete their studies, the country is not doing that well. However, it should be hastened to indicate that the prevalent students' completion times for studies towards postgraduate qualifications in South Africa are comparable to the prevalent students' completion times for studies towards postgraduate qualifications in Europe, Australia and North America (CHE 2009). This suggests that the underlying factors could be global rather than being unique to South Africa, although this does not change the fact that the resultant "pile up" effect compromises quality of provision, and engenders wastage of resources in the system.

RETENTION AND DROPOUT OF ENROLLED POSTGRADUATE STUDENTS

Another indicator of success in postgraduate education is the number of postgraduate students who are retained within the system until the successful completion of their studies, expressed as a proportion of the total number of postgraduate students in a particular cohort. High levels

of retention of postgraduate students are associated with high levels of success, whereas less retention levels are associated with less success. The opposite of retention is dropout or the attrition of students from the system before they complete their studies. High dropout or attrition of students is associated with less success, while low attrition or dropout signify high levels of success. In general, the higher education system in South Africa has an endemic challenge of high dropout rates (Letseka and Maile 2008). The average dropout rate for the entire higher education system in 2001 was as high as 20 per cent (DoE 2001) and the dropout rate remains stubbornly high decades later (DHET 2013; 2021).

The available data on dropout of postgraduate students indicates that for the 2015 cohort of students enrolled for postgraduate diplomas/honour's degrees, 21 per cent had dropped out by 2020, without completing their studies. Similarly, for the 2015 cohort of postgraduate students enrolled for master's degrees by research, 41 per cent had dropped out by 2020, without completing their studies; and for the cohort of postgraduate students enrolled for master's degrees by coursework, 51 per cent had dropped out by 2020, without completing their studies. For the 2015 cohort of postgraduate students enrolled for doctoral degrees, 33 per cent had dropped out by 2020, without obtaining their qualifications. These statistics indicate that the postgraduate section of higher education experiences relatively high dropout rates which signify that a significant proportion of students exit the system without successfully completing their studies. They would have gained access to higher education, but the access did not lead to success.

PARTICIPATION OF BLACK SOUTH AFRICANS IN POSTGRADUATE EDUCATION

Black South Africans, comprising of South African citizens classified as Africans, Coloured and Indian/Asian (Republic of South Africa 2003; Stats SA 2010) were marginalised during the colonial and apartheid past. Therefore, a key component of the transformation of higher education in South Africa entails providing people from these demographic groups access to all levels of higher education including postgraduate education (National Commission on Higher Education 1996). Together, the Black demographic groups constitute more than 90 per cent of the population of the country (Stats SA 2023) and yet, during the first decade of democracy, Black South African postgraduate students could hardly constitute 50 per cent of the total postgraduate student population in the country. In 2005, the proportion of Black South African postgraduate students to the total postgraduate student population rose to 56 per cent, and it rose further to reach 59 per cent in 2010. Thereafter it declined marginally to 56 per cent in 2015, before increasing significantly to 67 per cent in 2020 (CHE 2023b). While the upward

trajectory in the number and proportion of Black South African postgraduate students is encouraging, the 25 percentage point gap between the proportion of Black South Africans within the broader population of the country (92%) and the proportion of Black South African postgraduate students to total postgraduate population (67%), is still agonisingly wide considering that it has been three decades of implementing interventions to promote Black South Africans' access to postgraduate education.

Although the distribution of the Black South African postgraduate students to the different levels of postgraduate education exhibits a pyramidal structure similar to the one exhibited by the overall postgraduate student body as discussed earlier, the base of the pyramidal structure for the Black South African postgraduate students is broader, its middle is leaner, and its apex is narrower. For example, in 2005 the base of the pyramid representing headcount enrolments for postgraduate diplomas and honour's degrees constituted 55 per cent, whereas the middle, representing headcount enrolments for master's degrees constituted 40 per cent, and the apex, representing headcount enrolments for doctoral degrees constituted merely 6 per cent (CHE 2023b). In 2020, the base of the pyramid representing headcount enrolments for postgraduate diplomas and honour's degrees constituted 52 per cent, whereas the middle, representing headcount enrolments for master's degrees constituted 38 per cent, and the apex, representing headcount enrolments for doctoral degrees constituted merely 10 per cent (CHE 2023b). The changes in the proportions of the base, the middle and the apex of the pyramid during the fifteen-year period between 2005 and 2020 are therefore not that significant. This suggests that, although there has been some progress in providing Black South Africans access to postgraduate education, the participation of Black South Africans postgraduate education, particularly at the levels of master's and doctoral degrees, has not yet reached the desired critical mass.

It is important to note that Black South African postgraduate students also appear to have relatively less chances of success in their postgraduate studies. Although Black South African postgraduate students constituted 56 per cent of the total postgraduate student population in 2005, they had a less than 50 per cent representation in the graduates produced during that year. Similarly, although Black South African postgraduate students constituted 67 per cent of the total postgraduate student population in 2020, they had a less than 60 per cent representation in the graduates produced in that year (CHE 2023b). It is clear then that there is still a long way to go to make the profiles of the postgraduate student body, and the profiles of the graduates at postgraduate level, mirror the demographic profile of the national population.

FUNDING OF POSTGRADUATE STUDENTS

Globally, most postgraduate students are funded by scholarships, bursaries attached to research grants of supervisors, fellowships, university studentships, and other sources other than their families. This is unlike undergraduate students most of whom are funded by their parents or guardians (Barr and Low 1988; Barr 2014). The situation in South Africa is no different, but perhaps it is more accentuated by the fact that a significant proportion of undergraduate students are not funded by their parents, guardians or families because they are from previously disadvantaged backgrounds and, by and large, their families remain economically deprived (Bradbury 2023). Their undergraduate studies are likely to be funded by the state through the National Student Financial Aid Scheme (NSFAS), which also means that they can pursue postgraduate studies only if they are funded in a similar fashion. The Department of Science and Innovation, through its agency, the NRF, is the main source of funding for postgraduate students in the country. Other agencies such as the National Institute for Humanities and Social Sciences (NHISS), the Water Research Commission (WRC), and the Technology Innovation Agency (TIA) fund postgraduate students in specialised niche study fields (Luruli, Wangenge-Ouma, and Mgwebi 2022).

There are two key challenges associated with the funding of postgraduate students in the country. One is that the funding is not sufficient for all who qualify for postgraduate studies, even if they meet the criteria for funding. For example, in 2022, out of the 13 519 applicants who met the requirements for NRF postgraduate funding, the NRF was only able to fund 4 898 or 36 per cent (Moche 2023). The other funding agencies similarly receive more applications for funding from eligible individuals but are only able to fund a small proportion of them. Therefore, a sizeable proportion of potential postgraduate students are unable to enrol for their preferred postgraduate qualifications because they are unable to secure the necessary funding (Bradbury 2023).

The second challenge is that the funding from the NRF and other agencies usually cover the full cost of studies, but not the full cost of living. Most postgraduate students are either in their late twenties, or in their thirties and early forties, and they prefer not to stay in students' residencies on campuses (CHE 2022e; 2023b). Because of factors affecting the performance of the economy, the cost of living has been rising over the last couple of years. Consequently, the amounts that the students spend on rent for off-campus accommodation, and on transport to and from campuses, have been escalating; and many students, particularly those in the large cities, are increasingly not able to cover these expenses using their scholarship or bursary funds (CHE 2022e; 2023a). Globally, postgraduate students require funds to register for, and travel to attend conferences; to pay page charges for scholarly publications; to procure specialised computer

hardware and software required for their specialised research projects; to make use of services of professional language editors for their theses; and to pay for affiliation to different student and/or professional associations, to mention a few (Hubble and Foster 2015). The same apply to postgraduate students in South Africa (CHE 2022a; 2023a). In addition, some Black South African families, especially those in the rural parts of the country, expect their kith and kin who have completed undergraduate level, to support them financially when they are studying for postgraduate qualifications. This expectation compels the concerned postgraduate students to remit portions of their postgraduate scholarship or bursary money to members of their families in the rural areas (CHE 2022e; 2023a). The issue then is that rarely are the costs of these additional expenses factored into the equation in the process of determining the amounts of postgraduate bursaries and scholarships that are paid to individual students; and, where some of them such as attendance of conferences and page charges for publications are considered, the amounts allocated for them are often not sufficient (Hubble and Foster 2015; CHE 2022e).

As the postgraduate scholarships and bursaries cannot cover full cost of study plus full cost of living, the recipients are compelled to look for part-time jobs to earn wages to supplement their scholarships and bursaries. They, therefore, divide their time and attention between their part-time jobs and their postgraduate studies, which makes them to take relatively longer to complete their studies (CHE 2022a; 2023a; 2023b; Motseke 2016). The NRF, the agency that funds most postgraduate students, confirmed that postgraduate students on NRF scholarships and bursaries generally take longer than other postgraduate students to complete their studies (NRF 2021). It should be noted and acknowledged that the implementation of the new NRF Postgraduate Student Funding Policy in 2023 resulted in a significant increase in the funding value of honour's, master's and doctoral students' scholarships and bursaries (Moche 2023). However, the increased amounts still cannot cover the full cost of living, which is high and continues to soar, particularly in Gauteng and the Western Cape provinces.

CAPACITY FOR THE SUPERVISION OF POSTGRADUATE STUDENTS

Supervision is the main form of pedagogy employed in postgraduate education, particularly at the master's and doctoral levels. Therefore, the availability of adequate capacity to supervise postgraduate students is a requisite for the success of students in postgraduate education. It is equally critical that academics who are assigned the responsibility to supervise postgraduate students should be suitably qualified, mostly at doctoral level, and should have had some form of training and/or experience in supervision (Grant 2014).

The issues regarding postgraduate supervision in South Africa are fourfold. Firstly, the headcount of academic and research staff in the public universities has been increasing at a far

less rate than the rate of the increase in the headcount of postgraduate students (Maphalala, Ralarala, and Mpofu 2022). This means there is an imbalance between growth in supervisory capacity and growth in the demand for postgraduate supervision. Secondly, not all academic staff hold doctoral qualifications, and therefore not all academic staff contribute to the supervisory capacity. In 2020, only 50.4 per cent of the permanently employed academic staff in the public universities held doctoral degrees (CHE 2022c), a far cry from the 75 per cent target set by the NDP, notwithstanding the fact that the NDP target is for the year 2030. This means that there is limited capacity to supervise the steadily increasing numbers of postgraduate students. The "pile up effect" discussed earlier exacerbates the situation because supervisors are required to take in newly enrolled postgraduate students while continuing to supervise other postgraduates who "pile up" in the system as a result of students taking longer than the stipulated number of academic years to successfully complete their studies. This results in the phenomenon referred to as the "burden of supervision" as available supervisors experience the increasing burden of having to supervise inordinately large numbers of postgraduate students. In 2005, on average, a suitably qualified and experienced supervisor had seven postgraduate students to supervise, which is considered excessive by international standards (CHE 2009). The national review of the South African doctoral qualifications found the "burden of supervision" as one of the key challenges across institutions offering doctoral qualifications (CHE 2022a).

Thirdly, the model of postgraduate supervision that is more prevalent in South Africa is the "one-on-one" or the "apprenticeship" model, which involves assigning an individual student to an individual academic for supervision (CHE 2022a). This model assumes that the supervisor has sufficient expertise, capacity and compassion to support the students and their projects. However, this assumption is often proven wrong, and yet the students' options are limited, as there are no structures to report to beyond the supervisor; and even if there were such structures, reporting the supervisor may damage the student-supervisor relationship severely to the detriment of the student (McKenna and Van Schalkwyk 2023). Taking cognisance of all these challenges associated with the one-on-one supervision model, it is not surprising that various studies conducted over the last three decades have consistently identified this model of supervision as one of the main factors that militate against success among postgraduate students in South Africa (ASSAf 2010; CHE 2009; 2022a; 2023a; 2023b; 2023c; Cloete, Mouton and Sheppard 2015).

Fourthly, because of the slow pace of transformation, and the relative paucity of Black academics who hold doctoral qualifications and possess substantial experience of postgraduate supervision in certain disciplines, it is not uncommon to find academic departments in

universities in which postgraduate supervisors are predominantly old white men (ASSAf 2010; CHE 2022a), some on post-retirement contracts. Black postgraduate students are therefore assigned to be supervised by senior academics from different social, cultural, economic and language backgrounds, who, therefore, have little in common with them. When there is not much in common between supervisors and the supervised students, their relationships are more likely to be fraught with challenges that would negatively affect the students' progress in their studies (CHE 2023c).

The unconventional ways in which some universities have responded to the issues discussed above have the potential of compromising the quality of supervision, and therefore the quality of pedagogy in postgraduate education in South Africa. One such unconventional ways has been to overload the existing supervisory capacity. The effect on quality of this phenomenon of overburdening supervisors has already been pointed out earlier and needs not be overemphasised again. Another unconventional way employed by some institutions is to assign supervisory responsibilities to inexperienced supervisors who have not yet had opportunity to supervise before, even under mentorship. There are also cases where staff members pursuing their postgraduate studies, mostly at doctoral level, are required to supervise fellow doctoral students (ASSAf 2010; CHE 2022a). Almost across the board, universities are also increasingly making use of external supervisors from industry or professional practices. These supervisors have full-time jobs outside academia, and they therefore do not have much time to focus on the add-on responsibility of supervision of postgraduate students. To make matters worse, most institutions do not have in place firm quality assurance mechanisms to govern the external supervision arrangements, and neither do they have systems for routine monitoring of the external supervisors (CHE 2022a). The results of these unconventional ways of responding to the supervisory capacity challenges are poor quality of supervision, students taking longer than expected to complete their studies, and increased dropout of students who lack the determination to soldier on when supervision is almost non-existent.

PREPAREDNESS OF STUDENTS FOR POSTGRADUATE EDUCATION

Earlier, this article explained the inextricable link between the undergraduate and postgraduate sections of higher education. It evinced, for instance, that undergraduate education prepares students for, and "feeds" them to postgraduate education (Oraștirmasi 2016; Ion and Iucu 2016; Freeston and Wood 2015; MacDougall 2015). The article also explained that the main form of pedagogy in postgraduate education is supervision. As opposed to the instructional pedagogy, which is predominantly employed in undergraduate education, supervision assumes that the postgraduate students have firm grounding in the philosophies, theories, and principles that

anchor knowledge in particular disciplines; that they possess some understanding of the technical methods of scholarly inquiry applicable to their fields of study and the associated ethics; and that they demonstrate reasonable language and numeric literacy levels required for research and scholarship in the relevant disciplines (MacDougall 2015; Lindsay et al. 2002; McLinden et al. 2015). However, the works of Hanyane (2015), Jansen, Herman, and Pillay (2004), Labaree (2003), Maasdorp and Holtzhausen (2015), Meerah (2010), Pallas (2001), and Thani (2018), among others, have cast some doubts on the validity of these assumptions, at least in South Africa.

Most students pursuing studies towards honour's degrees and master's degrees by coursework successfully complete the coursework components of their programmes within the stipulated timeframes. However, almost half are not able to complete their research project reports or dissertations in time (CHE 2023b) because they struggle with conducting research and writing research reports or dissertations. Furthermore, fewer students register for master's degree by research and thesis, as compared to the master's degree by coursework and a mini dissertation, because the former is considered to be more difficult to undertake and complete successfully (CHE 2023b). All these suggest that students are not well prepared for the research components of their honour's and master's degree programmes, which raise questions about the content of the undergraduate curriculum, specifically whether the curriculum introduces students to research in general, and prepares them adequately for the rigours of postgraduate research, in particular. Similarly, the national review of doctoral qualifications (CHE 2022a) found that, by and large, students embarking on doctoral studies are not adequately prepared in the form of having the necessary foundational knowledge of research methodology, academic writing, or capacity to articulate and defend research ideas. The under-preparedness of those embarking on doctoral studies raises questions on the quality of the master's degree which is generally regarded as a pre-requisite for enrolment into doctoral programmes.

Globally, there is increasing realisation that there is an urgent need to transform the undergraduate curricula to include content that seeks to develop undergraduate students' understanding of the importance of research in academic and in professional practice, and to prepare the undergraduate students to develop competencies in research methodology, data processing and analysis, interpretation of results, and academic report writing (Bridges 2000). As Jenkins et al. (2003) observed, in the knowledge society of the 21st century, involving students in research is a way of improving their learning, as well as a way of motivating them to yearn for more knowledge. In the contemporary knowledge society, all students, irrespective of whether they are undergraduate or postgraduate students, ought to develop the ability to investigate problems, make judgements on the basis of sound evidence, take decisions on a

rational basis, and understand what they are doing. They ought to understand that research is not only for those who choose to pursue an academic career, as it is central to any contemporary professional practice (Jenkins et al. 2003; Hodge, Pasquesi, and Hirsh 2007).

Perhaps the undergraduate curricula in South Africa have not transformed in the way alluded to in the preceding paragraph, which would then explain why postgraduate students are generally not adequately prepared for the research and scholarship requirements of postgraduate studies, especially at master's and doctoral degree levels. Undoubtedly, this makes postgraduate studies extremely challenging, compelling some students to take longer than the stipulated time to successfully complete their studies, while those who are less determined to overcome the challenges find themselves quitting their studies. In this way, the opportunity for access to higher education is not followed, as it should, by success.

SUPPORT SERVICES FOR POSTGRADUATE STUDENTS

There is an increasing volume of research on postgraduate education that highlights the challenges that postgraduate students face across the world. Higher education institutions have traditionally assumed that postgraduate students are mature people and are experienced in finding solutions to academic and social problems that they may encounter. However, the large numbers of postgraduate students who are unable to complete their studies because of the challenges they face, and the equally large numbers of postgraduate students who take inordinately longer periods of time to complete their studies make this assumption a myth that is not supported by reality (Bunney 2017).

The transition from "group learning" at undergraduate level to "independent learning" at postgraduate level could be extremely challenging without any support. Furthermore, postgraduate students are pressured by their institutions to complete their studies within stipulated timeframes so that the institutions can receive subsidy funds for producing graduates; and at postgraduate level the amount of subsidy received for each graduate produced is up to three times the amount of subsidy received for a graduate at an undergraduate level (CHE 2023d). They also face pressure from funders who would like the students to complete the studies in time so that there could be no extension for the grants, scholarships or bursaries awarded to the students; and from members of the their families, who would like the students to complete their studies in time so that they can resume playing their full roles within their families, as they are unable to play those roles effectively while pursuing their postgraduate studies (Abiddin and Ismail 2009, 2014). Then, there is pressure exerted by supervisors who often do not clearly articulate what they want to see, and guide the students accordingly, but who are quick to criticise the work of their students in a not so constructive fashion (Abiddin

and Ismail 2014). Furthermore, in a world in which technological changes occur at a fast pace, postgraduate students who return to universities after taking "gap years" following graduation with their Bachelor's degrees, encounter debilitating challenges of learning new technology-assisted research methodologies that they would not be familiar with (Abiddin and Ismail 2009; 2014). The list of challenges that postgraduate students face globally is endless, and the pressure that those challenges exert on the postgraduate students often take a toll on both their physical as well as their mental wellbeing (Ismail and Dorloh 2020). Yet universities across the globe continue to have in place elaborate support systems and structures for undergraduate students, but they have not been able to replicate the same for postgraduate students who are left on their own with little, if any, support from their supervisors (Van der Meer, Spowart, and Hart 2013). This situation is increasingly becoming untenable in universities across the world, and hence the increasing calls for universities to invest in bespoke support services for postgraduate students (Bunney 2017; Van der Meer et al. 2013).

The national review of doctoral qualifications (CHE 2022a) and other studies on postgraduate education in South Africa, including those of ASSAf (2010); Frantz et al. (2022); Govender and Ramroop (2012); Hanyane 2015; Jansen et al. (2004); Labaree (2003); Maasdorp and Holtzhausen (2015); Mashau and Fhatuwani (2023); Motseke (2016); Sengane and Havenga (2018); and Thani (2018), among numerous others, identified the inadequacy, and in some instances, the almost lack of support services tailor-made for postgraduate students as a main factor that influences dropout of postgraduate students, or their inability to complete their studies within the timeframes stipulated by the institutions. These studies recommended institutions to invest in the provision of quality support academic and non-cognitive services for postgraduate students in the same manner as they do for undergraduate students. They contended that such investment would be justified considering the importance of postgraduate education to the reputations of the institutions; as well as considering that postgraduate students pay more in tuition fees, and that institutions receive more in subsidy funding for postgraduate students, compared to the subsidy funding they receive for undergraduate students. They recommended that institutions should construct, equip and staff Graduate or Postgraduate Centres that would provide quality facilities and support services including study rooms, computer laboratories, and centres offering statistical analysis and interpretation services, academic writing and editing services, counselling, coaching and mentoring services, to mention a few. Without investing in academic and non-cognitive support services to postgraduate students, their access to postgraduate education is less likely to be followed by success.

CONCLUSION

This article has presented and discussed ten key issues that have a bearing on national policies, plans, programmes and other initiatives aimed at promoting access to, and success in postgraduate education in South Africa. The issues are emerging from the analysis, triangulation, and interpretation of sets of information and data obtained from multiple projects focusing on postgraduate education, that the CHE has implemented since 2018. Among the issues are that the postgraduate section of higher education in South Africa is relatively small and is not growing fast enough, and that it has a pyramidal structure which signifies that more than half of postgraduate students are enrolled for postgraduate diplomas and/or honour's degrees, less are enrolled for master's degrees, and a tiny proportion are enrolled for doctoral degrees. Other issues are that although the numbers of graduates produced at all levels of postgraduate education have been increasing over the last three decades, more students at all levels are taking longer to complete their studies than the periods stipulated by the institutions, and the dropout rate remains relatively high. A key issue regarding transformation is that the profiles of the postgraduate student body, and of the graduates at postgraduate level, are less representative of the demographic profile of the national population. Another equally important issue is that only a small portion of potential postgraduate students are funded, and that the funding rarely covers full cost of study as well as full cost of living, forcing the funded students to supplement their scholarships by taking up part-time employment. The last three issues are about the low supervisory capacity in institutions, the lack of adequate levels of support services for postgraduate students, and the apparent under-preparedness of students for the rigours of postgraduate studies.

These ten issues are illuminated further in the other articles contained in this special issue of the SAJHE. This article, therefore, provides a synthesis not only of the issues emerging from the analysis, triangulation, and interpretation of sets of information and data obtained from the multiple projects focusing on postgraduate education, that the CHE has implemented since 2018, but also as a synthesis of the issues ventilated in the ensuing articles in this special issue of the SAJHE. In that way, it sets the scene for, and context of the other articles, and prepares the readers to understand and appreciate the contents of those articles.

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