The Challenges of Undergraduate Education: Looking Back and Ahead[1]

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Introduction

The White Paper for Post-School Education and Training of 2013 presents the following major challenge to South African universities: 'Participation rates are expected to increase from the current 17.3 per cent to 25 per cent – that is, from just over 937 000 students in 2011 to about 1.6 million enrolments in 2030. As participation increases, universities must simultaneously focus their attention on improving student performance. Improving student access, success and throughput rates is a very serious challenge for the university sector and must become a priority focus for national policy and for the institutions themselves, in particular improving access and success for those groups whose race, gender or disability status had previously disadvantaged them' (DHET 2013a: xiv). The White Paper is but one of four major policy documents which in recent years have thematised the envisaged role of Higher Education in South Africa's developing democracy, together with the consequences in terms of student participation and success. Common to all is the expectation that far more students must both enter and benefit from higher education.[2]

This challenge for the coming two decades should be seen against the background of developments during the past two decades. Since 1994 student enrolments have nearly doubled, from a headcount of 495 396 in 1994, to 953 373 in 2012 (CHE 2014: 3 Fig 1). This has been accompanied by a marked shift in the demographics of enrolments. As the White Paper noted: 'Redress policies driving improved access for blacks and women have clearly worked. In 1994, 55 per cent of students at public universities were black (African, coloured and Indian), 43 per cent were African, and 55 per cent were male. By 2011 these figures were 80 per cent black, 68 per cent African and 42 per cent male' (DHET 2013a: 28). Of course this progress does not yet represent demographic equity in student intake, nor does it represent the levels of participation in higher education required in a developing country.

These changes were achieved in an environment of constantly tightening state funding, which has not kept up to date with growing student intake. The Report of the Ministerial Committee for the Review of the Funding of Universities points out that 'state funding of higher education (in real terms) has been declining over the years. Between 2001 and 2010, state funding per full-time equivalent (FTE) enrolled students fell by 1.1% annually, in real terms' (DHET 2013b: 7). South African Higher Education has been expected to do more with less; and has indeed

been doing more with less – to the extent that the Higher Education system is presently under severe strain, staff / student ratios have been severely impacted, and considerable infrastructural backlogs are to be found, not only in the historically disadvantaged universities. At the same time, however, the budget for NSFAS student funding has grown massively, although student unrest during each enrolment period points to the continued inadequacy of these funds. [3]

Within this context, moreover, the Ministerial Report points to 'unacceptably high levels of inefficiency in the system' (DHET 2013b: 7), by which are specifically meant 'low levels of production of graduates at undergraduate level, and more worryingly low levels of production of graduates at postgraduate level' (ibid: 16) – in short, higher education is not delivering the skills needed for development. As Fisher and Scott concluded in 2011, South African Higher Education is and has remained a 'low-participation, high-attrition' system (Fisher and Scott 2011: 1). Detailed cohort analyses, beginning with the 2000 cohort, have shown that in the contact institutions only around 25% of the intake graduate in regulation time; and only around 48% graduate within five years. (In distance education graduation figures are considerably lower.) Overall, it is estimated that around 55% of the intake will never graduate (CHE 2013: 15). (The challenge of dropout, of course, is by no means unique to South African Higher Education; it is a challenge with which universities world-wide have been confronted since the massification of higher education commenced around 50 years ago.)

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Growth at postgraduate level has been rather more moderate: in 2012 around 150 000 students were registered, with well over half of these studying for Post Graduate up to Honours. In 2007, with 10 052 doctoral enrolments, 1274 doctorates were awarded; in 2012, 1878 awards were made against 13 964 enrolments (CHE 2014: 20-21, Figs 28 and 30). As the National Development Plan noted: with current production of PhD graduates standing at just 28 per million per year, the target has to be over 100 PhD graduates per million per year (NPC 2012: 319).

The analysis of performance indicators for the period 2000-2010 in the Report of the Ministerial Committee confirms that, while there have been improvements, most of the set performance indicators have not been met (DHET 2013b: 17-19). Hence the conclusion that the system remains a very inefficient one – in spite of what staff have experienced as considerably increased workloads over the past decade.

The remainder of this paper will focus on the challenges, past and future, associated with accommodating growing undergraduate numbers and seeking to enhance their throughput. While doctoral graduates are needed to drive innovation, their numbers will always remain more limited, even with the expansion proposed by the White Paper. The main growth in numbers will, of necessity, be at undergraduate level, and the White Paper states unequivocally that 'all universities in South Africa must offer high-quality undergraduate education' (DHET 2013a: 30).

Challenges: Past and Future

To date, increases in numbers have been able to be accommodated by the sector, with – over the six years from 2007-2012 – moderate growth and a levelling

off at the University of Technologies and the comprehensive universities, higher growth at the traditional universities (which appears to be continuing), and total growth of around 40% at Unisa (CHE 2014: 33, Fig 45; see also 36-38, Figs 51-55). By 2012, there were 387 133 students in distance education as against 566 239 in contact education – a ratio of approximately 40% / 60% (CHE 2014: 33 Fig 45). However, at the growth rate specified by DOHET, which implies an average growth rate of 3.05% per annum through till 2030,[4] such accommodation will no longer be possible without considerable new investment in staffing and infrastructure.[5] This issue will be addressed again towards the end of this paper.

Considerable effort, and funding, has since been spent on initiatives to improve both retention rates and graduate output. While this is certainly still work in progress, a good example of the progress that has been made are the First Year Experience programmes now in place at most universities.

We turn now to the second matter highlighted by the White Paper, the inefficiency of the system, in terms of poor graduate output. This topic was first taken up by academic development initiatives which emerged during the gradual opening of certain historically white universities to black students three decades ago. These initiatives gradually expanded into extended curricula programmes at most universities which, on the one hand, have been accommodating entrants who do not satisfy the normal entrance requirements while, on the other, have succeeded in placing the issue of teaching and learning on university agendas. Considerable effort, and funding, has since been spent on initiatives to improve both retention rates and graduate output. While this is certainly still work in progress, a good example of the progress that has been made are the First Year Experience programmes now in place at most universities. Yet it is disturbing that in spite of considerable efforts, student success rates, and specifically qualification completion rates, have barely shifted.

Teaching and Learning

Over the past decade there has been an expanding awareness of teaching and learning as core university function, and of the need to professionalize university teaching, with the matter increasingly being placed on agendas, and the efforts of individual universities being supported by the DHET and CHE. An initial step was the inclusion of foundational provision grants in DHET's earmarked funding awards; subsequently Teaching Development Grants were included. National Teaching Awards were introduced by Heltasa and DHET in partnership, and most institutions now offer a variety of institutional teaching awards. Importantly, the second round of institutional quality audits was conceptualised as the Quality Enhancement Project, with the goal of 'producing an increased number of graduates with attributes that are personally, professionally and socially valuable' (Grayson 2013), not least by means of collaborative approaches. Grants for Scholarship of Teaching and Learning research have been made by both the NRF and the HEQC. The Teaching Development Grants were recently complemented by the competitive collaborative Teaching Development grants which are now funding (for instance) the national Teaching Advancement at Universities (TAU) Fellowships programme and the South African National Resource Centre for The First year Experience and Students in Transition (SANRC), both based at the University of Johannesburg. A Teaching and Learning Centre or Office has been established at all institutions.

Student Dropouts

These developments have also achieved a broader awareness of the actual graduate output of higher education, together with growing agreement that this is unacceptable, and that, while many entrants may be 'underprepared', the quality of curriculum and teaching are also implicated in this outcome. The important cohort analysis studies by Scott, Yeld and Hendry (2007) first demonstrated conclusively actual completion rates over five years, as well as the lack of equity in outcomes. Student 'dropout' (especially during first year) was identified as a core challenge to the system. Out of this work emerged the more recent CHE publication, A Proposal for Under Graduate curriculum reform, which conceptualised student dropout as follows: 'Success and failure in Higher Education is the result of a complex interplay of factors. These factors are both internal, that is, intrinsic to the higher education system, and external, in relation to social, cultural and material circumstances. It is beyond dispute that individuals who are socially and economically disadvantaged are less likely to gain access to and successfully complete any form of higher education' (CHE 2013: 54-55). The report concluded that 'modifying the existing undergraduate curriculum structure is an essential condition for substantial improvement of graduate output and outcomes' and proposed 'a flexible curriculum structure for South Africa's core undergraduate qualifications – based on extending their formal time by a year as the norm – designed to address effectiveness, efficiency, quality and responsiveness to diversity across the higher education sector' (ibid: 16) After system-wide consultation, recommendations for pilot implementation of these proposals have been forwarded to the DHET for the Minister's consideration.

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Structural Challenges

Yet, at the same time of these promising developments, structural challenges within the universities remain, and not least the tension between research and teaching and learning, which is underpinned by longstanding values and policy. These include the widespread prioritization of research output in applications for promotion; the role of the research output component as contributing to the university block grant through publication subsidies (and in turn to the research cost centre of the author); the rapidly growing focus on university rankings, where teaching and learning tends to play a reduced role in much sought after institutional prestige. It will be of considerable interest to see how current calls for differentiation within the sector (eg CHE 2013a: 29-30) play out.

Inadequate Funding

While inadequate responses to the articulation gap between school and higher education are strongly implicated, at the same time, lack of adequate funding remains a core reason for student dropout. The increased student intake envisaged by the White Paper will of necessity involve indigent students who are dependent on public funding. Without a changed approach, the NSFAS budget (even though rapidly escalating) is unlikely to be able to satisfy requirements, with additional factors also impacting: students at FET/TVET Colleges now also compete for NSFAS funding allocations from the same pool; and, contrary to the initial approach of allocating NSFAS loans which, when repaid, would again return to the NSFAS kitty, an increasing quantity of this funding is now granted as bursaries, and does not have to

be paid back.[6] All of this contributes further to the depletion of the NSFAS funding pool, at a time of rapidly growing demand. Many institutions have complemented their NSFAS allocation from own funds; and the institutional NSFAS allocation may be spread 'thinly' among a greater number of students, leading to a reduction in individual grants: as a result students may be able to register, but cannot afford accommodation, do not have enough food, cannot purchase study materials and so on. These factors undoubtedly contribute to the heavy dropout rates. In addition, the 'missing middle' – those whose family income is low, but still above the NSFAS threshold – do not qualify for such funding and hence this societal group is largely excluded from higher education.

Looking ahead, teaching and learning is now on institutional agendas, and system-wide developmental strategies are increasingly emerging. But undoubtedly funding issues will remain core: the funding of students; and the funding of the universities themselves.

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While the National Development Plan calls for a 'revision of the funding framework for universities (which) should be based on the needs of a differentiated system, with adequate funding for teaching and research alike' (NPC 2012: 83), the White Paper does not go into detail on this topic. Section 4.6, 'Making university education affordable', addresses NSFAS, escalating student fees, the desirability of fee-free education for the poor, and student funding which includes reasonable living costs and other study-related expenses. Strategies to make these funds available are to include the role of partnerships in student funding initiatives; the principle of cost recovery of loans from students who have benefited from state funding; and the 'possibilities of developing formal graduate service programmes, which link community or state service to the repayment of loans' (DHET 2013a: 37). However, this section is silent, for instance, as to the infrastructural consequences of such a massively increased intake. Current institutions working with traditional models of context learning are more or less at capacity. There will of necessity be impact on staffing, teaching venues, residences, systems, with substantial financial consequences. In short, it is essential that the decrease in pro capita funding in real terms over the past decade be reversed.[7]

As regards the universities themselves, 'more of the same' will not produce the outcome envisaged by the Minister. At the same time, South African higher education has in the past repeatedly experienced the unintended consequences of policy decisions (CHE 2004: 36). Similarly, the danger of a quality collapse through inexorably growing pressure on the system should not be underestimated.

Recommendations

Three possibilities would seem to offer some scope.[8] In the first place, the affordances of the new educational technologies must be explored, from two perspectives. Firstly, increasing the distance delivery component in the system (which is funded at 50% in the block grant) would allow for increased numbers at lesser financial impact on the Department – and hopefully on the universities. Increasingly, distance education draws on educational technologies, and the use of Massive Open Online Courses (MOOCS) could also be explored. However, throughput rates for this mode of

delivery are known to be much lower than for contact mode (and for South Africa's 'underprepared' students, this may be exponentially the case); and the costs and staffing implications of introducing educational technologies on a massive scale should not be underestimated. The same caveats apply to the possible introduction of blended learning components within contact programmes, which might decrease the required classroom time by one half and allow for additional student registrations. Any thoughts of system-wide implementation must certainly be prefaced by pilot implementation and careful evaluation, both of success rates and of actual costs.

In the second place, private higher education institutions could be allocated a greater role. While statistics are not very reliable, it is assumed that at present 90 000 – 100 000 students are registered in private institutions, for diplomas and degrees. However, a substantial increase in this category of intake could probably only be achieved through the extension of NSFAS funding to private higher education. In addition quality considerations would need to be carefully addressed.

Finally, an improvement in graduate output with a concomitant reduction in the number of years that the majority of students spend in undergraduate education, would allow more students to be accommodated. In this regard the recent CHE *Proposal for the Restructuring of Undergraduate Education* (complemented by the range of teaching and learning initiatives currently underway across the sector) would seem to have considerable merit, and it is to be hoped that the Minister approves this for sector-wide pilot implementation. As the financial analysis in the *Proposal* concludes, 'implementing the new structure would be financially viable and would constitute the most resource-efficient way of achieving substantial undergraduate growth' (CHE 2013: 23).

Clearly, the project of an equitable and effective higher education will require collaboration and partnerships between all stakeholders; and the challenge of a higher participation rate, together with a higher graduate output, will need to be addressed from multiple perspectives. Each input, too, will have potential knock-on effects which will require careful monitoring and regular adjustment of strategy and policy. A more realistic funding package alone will not be a solution. However, expecting the sector to address this challenge in the absence of such funding will in all likelihood result in a decline of quality and output which may prove irreversible. And as argued by the National Development Plan, what South Africa urgently needs is a vibrant and sustainable higher education sector which can drive the knowledge society and economy and build citizenship.

FOOTNOTES

1 The inputs into this paper by Professor Charles Simkins of the Helen Suzman Foundation, and Mr Jaco van Schoor, CFO at the University of Johannesburg, are gratefully acknowledged.
2 The other three key documents are: The National Development Plan 2030 (NPC 2012); A Proposal for undergraduate curriculum reform in South Africa: the case for a flexible curriculum structure. Discussion document (CHE 2013); Report of the Ministerial Committee for the Review of on the Funding of Universities (DHET 2013b).
3 Total NSFAS funding rose from R1 876 311 103 in 2007 to R7 897 127 057 in 2012 (CHE 2014: 93 Fig 152).
4 Professor Charles Simkins, personal communication
5 The three new universities will be unlikely to register substantial numbers of students, and will therefore not impact significantly on the numbers required.
6 In 2012, 53% of funds awarded by NSFAS took the form of bursaries. (Professor Charles Simkins, personal communication)
7 The Report of the Ministerial Committee for the Review of Funding of Universities (2013) does indeed recommend increased funding for Higher Education. The following comparative figures are pertinent: 'In 2011, South Africa's state budget for universities as a percentage of GDP was 0.75% …, which is more or less in line with Africa as a whole (0.78%). When compared to OCED countries (1.21%) and the rest of the world (0.84%), South Africa lags behind in this regard. Although South Africa spends a considerable amount on education, its expenditure on higher education is much lower than desirable. Higher education expenditure as a percentage of education expenditure for Africa was 20%; for OECD countries it was 23.4%; and for the world 19.8% in 2006 (closest year). However, in 2011, South Africa's estimated higher education expenditure as a percentage of education was approximately 12%.' (DHET 2013b: 19). Hence Recommendation a) states that 'Government should increase the funding for higher education, to be more in line with international levels of expenditure.' (ibid 20; see also P 153).
8 The assistance of Professor Charles Simkins in developing these recommendations is hereby acknowledged. CHE 2004. South African Higher Education in the First Decade of Democracy. Pretoria: Council on Higher Education.

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