



**Biennale on Education in Africa
(Maputo, Mozambique, May, 5-9 2008)**

**Beyond Primary Education:
Challenges and Approaches to Expanding Learning Opportunities in Africa**

Parallel Session 4C

**Transition Between Upper
Secondary and Higher
Education: Policy and
Governance**

The interface between further and higher education
in South Africa:
Factors affecting the higher education sector's capacity
to meet national needs

By Ian SCOTT and Nan YELD

**Working Document
DRAFT**

PLEASE DO NOT DISSEMINATE

DOC 3.6.03

This document was prepared by ADEA for its Biennale (Maputo, Mozambique, May 5-9, 2008). The views and opinions expressed in this volume are those of the authors and should not be attributed to ADEA, to its members or affiliated organizations or to any individual acting on behalf of ADEA.

The document is a working document still in the stages of production. It has been prepared to serve as a basis for discussions at the ADEA Biennale and should not be disseminated for other purposes at this stage.

© Association for the Development of Education in Africa (ADEA) – 2008

Association for the Development of Education in Africa (ADEA)

International Institute for Educational Planning

7-9 rue Eugène Delacroix

75116 Paris, France

Tel.: +33(0)1 45 03 77 57

Fax: +33(0)1 45 03 39 65

adea@iiep.unesco.org

web site: www.ADEAnet.org

Contents

1. ABSTRACT	1
2. EXECUTIVE SUMMARY	2
3. INTRODUCTION	5
3.1 AIM	5
3.2 A NOTE ON TERMINOLOGY	5
3.3 THE SIGNIFICANCE OF HIGHER EDUCATION FOR DEVELOPMENT	6
4. ASPECTS OF THE POLICY ENVIRONMENT	7
4.1 QUALIFICATIONS FRAMEWORKS AND THE INTEGRATION OF EDUCATION AND TRAINING	7
4.2 SCHOOLING AND FURTHER EDUCATION	9
4.2.1 General and Further Education and Training Quality Assurance Act	9
4.2.2 Policy for the National Senior Certificate (NSC), 2005	9
4.3 HIGHER EDUCATION	12
4.3.1 Core policy: towards balancing development, equity and efficiency	12
4.3.2 Quality assurance	13
4.3.3 Private higher education	13
4.3.4 ‘Reconfiguring the institutional landscape’ and the HEQF	14
5. SCHOOL PERFORMANCE PATTERNS AND ISSUES ARISING	16
5.1 PERFORMANCE PATTERNS IN THE SCHOOL SECTOR	16
5.2 SOME ISSUES ARISING	18
5.3 ASSESSMENT OF PROSPECTS	21
6. UNDERGRADUATE PERFORMANCE PATTERNS AND ISSUES ARISING	23
6.1 ACCESS AND ENROLMENT	23
6.2 HIGHER EDUCATION PARTICIPATION	24
6.3 HIGHER EDUCATION THROUGHPUT AND GRADUATION RATES	25
6.3.1 Overall undergraduate completion and attrition	26
6.3.2 Contact university degree programs	27
6.3.3 Contact ‘technikon’ programs	28
6.3.4 ‘Equity of outcomes’	28
6.4 SOME OBSERVATIONS AND ISSUES	29
7. ASSESSMENT AT THE INTERFACE	32
7.1 DEVELOPMENT OF ALTERNATIVE ACCESS MECHANISMS	32
8. SOME IMPLICATIONS FOR TEACHING AND LEARNING IN HIGHER EDUCATION	36
8.1 CURRICULUM REFORM: ‘EXTENDED PROGRAMS’ AND BEYOND	36
8.2 DEALING WITH DIVERSITY IN MAINSTREAM COURSES	38
NOTES.....	39
BIBLIOGRAPHICAL REFERENCES	40

Tables and figures

Tables

Table 5.1: SC results 2006: full-time candidates with 6 or more subjects according to gender and type of pass

Table 5.2: South African Performance by Country and Former Racially Based Departments: TIMSS 2003

Table 6.1: Gross participation rates: Total enrolment in 2005 as percentage of 20-24 age-group

Table 6.2: Performance after 5 years: All first-time entering students

Table 6.3: Performance in general academic first B-degrees, by selected CESM: All first-time entering students excluding UNISA (distance education)

Table 6.4: Performance in professional first Bachelors degrees, by selected CESM: All first-time entering students excluding UNISA (distance education)

Table 6.5: Performance in National Diplomas, by selected CESM: All first-time entering students excluding Technikon SA (distance education)

Table 6.6: Graduation within 5 years in general academic first Bachelors degrees, by selected CESM and 'race': First-time entering students excluding UNISA (distance education)

Table 6.7: Graduation within 5 years in National Diplomas, by selected CESM and race: First-time entering students excluding Technikon SA (distance education)

Table 7.1: Performance Data from the Alternative Admissions Research Project 2006

Figures

Figure 5.1: Senior Certificate 2006: Performance of the 1995 entering cohort

Figure 5.2: 'Challenge levels' of English Second Language SC papers

Figure 5.3: How Teachers spend their Time (Chisholm et al 2006)

Figure 7.1: HESA enrolment services

Acknowledgements

This paper draws considerably on recent research by the authors, published or due to be published in various forms including Scott, Yeld and Hendry (2007), Yeld (2009) and Scott (2009) – see References for details. Thanks are due to the SA Council on Higher Education for commissioning this paper, and also for commissioning the original research and permitting its use here.

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

The authors extend special thanks and acknowledgement to Jane Hendry of the University of Cape Town, co-researcher in the CHE's Improving Teaching and Learning for Success project, for her expert work on analysis of higher education student performance.

Acronyms

AARP	Alternative Admissions Research Project (at the University of Cape Town)
AD	Academic Development
CESM	Classification of Educational Subject Matter
CHE	Council on Higher Education
DET	Department of Education and Training (the authority responsible for black African schools under apartheid)
DoE	Department of Education
GENFETQA	General and Further Education and Training Quality Assurance
FET	Further Education and Training (including the senior secondary phase)
HEQC	Higher Education Quality Committee of the CHE
HEQF	Higher Education Qualifications Framework
HESA	Higher Education South Africa
IEA	International Association for the Evaluation of Educational Achievement, US Department of Education
ITLS	Improving Teaching and Learning for Success project of the HEQC
JMB	Joint Matriculation Board
NBTP	National Benchmark Tests Project
NCHE	National Commission on Higher Education
NPHE	National Plan for Higher Education
NQF	National Qualifications Framework
NCS	National Curriculum Statement (defining the senior secondary curriculum)
NSC	National Senior Certificate (Grade 12 school-leaving qualification, from 2008)
RPL	Recognition of Prior (experiential) Learning
SAFCERT	South African Certification Council
SAQA	South African Qualifications Authority
SC	Senior Certificate (pre-2008)
SET	Science, Engineering and Technology

1. ABSTRACT

- 1) The South African education system, in its second decade since the political transition, continues to face major challenges, including overcoming its long history of racial inequalities and building capacity for internal national development as well as international competitiveness in a globalising world. After a period of intensive focus on legislative change and policy development, designed to replace apartheid structures and practices and to modernize the system, there is increasing acceptance of the need to shift emphasis to implementation. A key area for intervention is the interface between secondary/further and higher education, where problems with articulation have been acknowledged in policy as having substantial negative effects on higher education performance, particularly for students from disadvantaged educational backgrounds.
- 2) This paper, written from the perspective of higher education, aims to identify, contextualize and offer discussion on key issues at the interface between secondary/further and higher education that have a significant bearing on effectiveness and equity in South African higher education. It provides: (a) a brief account of relevant aspects of the policy environment; (b) an account of performance and issues in the school sector that particularly affect articulation, concluding that it is not realistic to depend on improvements in schooling to solve higher education's progression problems; (c) an overview of current undergraduate performance patterns intended to highlight the significance of systemic problems, particularly articulation, and arguing that promoting equity of access and outcomes is an essential condition for meeting national needs for high-level skills; and (d) an outline of key developmental initiatives that can significantly improve articulation and hence higher education performance.
- 3) A central theme of the paper is that successful articulation requires commitment to enhancing the educational process in higher education as well as in schools – particularly in relation to student selection and accommodating diversity in the curriculum – as a key part of the sector's contribution to transformation.

2. EXECUTIVE SUMMARY

- 4) The paper identifies and discusses key issues at the interface between schooling and higher education in South Africa. In light of South Africa's troubled apartheid past and legacy of highly inequitable and generally very poor schooling opportunities and provision, the paper focuses in some detail on factors and issues that have a significant bearing on achieving effectiveness, equity and development in South African higher education.
- 5) It is widely acknowledged that effectively functioning higher education systems are key to the socioeconomic wellbeing of developing countries. In South Africa, this is recognised in various policies, developed since the political transition, that seek to position the higher education sector to meet the challenges of development through generating, disseminating and applying knowledge that is of national and international relevance and significance, while at the same time fostering equity.
- 6) The paper discusses important aspects of the policy environment (chapter 4): grouped as follows: qualifications frameworks and integration of education and training; policies and policy-related developments in schooling and further education; and policies relating to higher education.
- 7) In relation to the first of these (qualifications frameworks and the integration of education and training), the National Qualifications Framework Bill was passed into law in 1995. Its primary purpose was to facilitate vertical and horizontal articulation in education at all levels. For this to be achieved, it is necessary for education and training to be integrated. The paper notes several difficulties that have been experienced in attempting to achieve this integration, particularly in connection with establishing a uniform credit system.
- 8) The second set of policies focuses on policies in relation to the senior stage of secondary schooling, Grades 10 – 12, where a new curriculum was introduced in 2006, and a new school-leaving qualification is being introduced at the end of 2008. These herald quite considerable changes, doing away with vertical differentiation in school subjects (the previous Higher, Standard and Lower Grade versions of subjects), and including some form of Mathematics (Mathematics or Mathematical Literacy) as a compulsory subject for all students.
- 9) The third set of policies relates to the higher education sector, and discusses the development and main aims of the National Plan for Higher Education in 2001. This plan highlighted the importance of qualification completion rather than focusing on intake (i.e. from access to success) and set out a new funding framework designed to support this shift. A further important policy shift, embodied in the Education White Paper (Department of Education 1997b), can be seen in the recognition given to the need for equity-related educational initiatives to be employed in the higher education sector itself, rather than being dismissed as being the responsibility only of the schooling sector. The paper points to the establishment of the Council on Higher Education which, through its standing committee (the Higher Education Quality Committee) has an explicit mandate for improving the quality of teaching and learning in higher education. Finally, in what is arguably the most radical state initiative in higher education since the transition, the wide-ranging institutional mergers and incorporations which saw the country's higher education institutions reduce in number by almost half, the binary divide between the universities and the 'technikons' was formally removed.
- 10) Following the discussion on policies impacting on the interface between further and higher education, the paper moves to provide an overview and analysis of current student performance patterns, in the school and higher education sectors, with a view to providing the context for understanding the continuing systemic issues affecting articulation between the two sectors as well as the challenges experienced in meeting national educational needs and redressing historical inequities.

- 11) In chapter 5, performance patterns in the school sector are discussed, drawing on data from several international trend studies and the current school-leaving examination at the end of Grade 12 (the Senior Certificate). The point is made that the overall academic level achieved by South African school students is low –lower than could have been hoped for given the relatively high share obtained by education from the treasury, and certainly lower than the level required for adequate preparation for higher education study. Several explanations are offered to account for the poor performance of South African students: far-reaching, fundamental and poorly implemented curriculum changes in the 1990s; a high number of inadequately trained teachers; political pressures on pass rates in the Senior Certificate, leading to a lowering of standards at that level; and, overarchingly, the impact of the legacy of a dysfunctional schooling system from the apartheid regime. The section concludes by stressing that it is simply not realistic to rely on school improvements in the short to medium term to produce the well-prepared students needed for higher education to meet graduate production targets.
- 12) Chapter 6 focuses on undergraduate performance patterns, starting with an analysis of statistics on student access and enrolment. The overall growth in the sector, and the doubling of African student enrolment in the last 10 years, is noted, alongside continuing concerns about the underrepresentation of women and black students in key professional, SET and postgraduate programmes, and skewed participation rates. The chapter continues with an in-depth analysis of throughput and graduation rates, showing (for example) that although contact university degree programmes constitute the best-performing sub-sector of undergraduate provision, only 50% of the cohort that began their studies in 2000 graduated within five years. For contact 'technikon' programmes, the situation is of even more concern, with only 32% of the 2000 intake graduating after five years. In relation to 'equity of outcomes' concerns, the paper shows the extent of the racial disparities that still exist, with, in almost all cases, black completion rates being less than half those of white completion rates. The chapter puts forward several explanations for these findings, along with suggestions for how they could be addressed. In essence, it is argued that focusing only on access is not sufficient to bring about efficient growth in graduate output or equity of outcomes, that the higher education sector has an obligation to identify and address those challenges that are within its sphere of influence, and that the curriculum, in terms of structure and delivery as well as content and progression, is a key variable impacting on student performance.
- 13) In chapter 7, the matter of assessment at the interface is discussed. The complexity of the admissions terrain in South Africa is outlined, along with the role of Higher Education South Africa (HESA). Essentially, the complexity stems from the continuing disparity and inequity in educational provision in schooling, which unsurprisingly results in some students being disadvantaged and underprepared in relation to their more privileged peers. This obviously poses challenges for equity of access. The need for and development of alternative access mechanisms, processes and instruments is thus outlined, along with their role in widening and facilitating access, particularly for educationally disadvantaged students.
- 14) Chapter 8 addresses many of the implications of the challenges outlined in the paper for teaching and learning in higher education. It stresses the importance of curriculum reform aimed at meeting the 'articulation gap' between schooling and higher education, and makes the point that to meaningfully meet the scale of the challenge, such reforms need to be instituted not only at the introductory phases of qualifications (although this is a crucial first step), but need to be fully integrated with the 'mainstream' curriculum throughout the course of the degree. The importance of adequate professional development programmes for academic staff in their role as educators is stressed, as this is essential if institutions are to be able to deal effectively with increasingly diverse student bodies and reformed curricula.

3. INTRODUCTION

3.1 Aim

- 15) The South African education system, in its second decade since the political transition, continues to face major challenges, including overcoming its long history of racial discrimination and inequalities and building capacity for internal development as well as international competitiveness in the context of economic globalization. Research on the school and higher education sectors is contributing to a growing understanding of the nature and extent of the challenges, which are manifested in all phases of the system. In the wake of the first decade's pre-occupation with undoing the complex legislative basis of apartheid and undertaking fresh policy development, there is increasing acceptance of the need to shift emphasis to implementation. This in turn requires careful analysis of underlying, embedded problems, as a basis for focusing developmental resources where they can most effectively have impact.
- 16) Entrenched educational challenges are perhaps most identifiable at the interface between major educational phases. This is very much the case with the interface between the school and higher education sectors in South Africa, where problems with articulation have for some time been recognized as constituting a key systemic fault line, as acknowledged in the higher education White Paper of 1997 (DoE 1997*b*). Given South Africa's much publicized shortages of high-level skills, addressing systemic challenges of this kind is important for national development.
- 17) This paper thus aims to identify and offer discussion on key issues at the interface between schooling and higher education that have a significant bearing on effectiveness, equity and development in South African higher education. It does not attempt to offer a comparative perspective, but it may well be that underlying issues in South Africa also affect education in other African countries, albeit in different forms. The authors believe that comparative studies across African and other 'South' countries can play a key role in identifying and addressing the educational improvement agenda, and hope that such work can be purposefully developed in future years.
- 18) While much of the paper deals with issues in the school system, it is written from a higher education perspective, and its treatment of schooling thus focuses on aspects that particularly affect higher education and its interface with the secondary/further education sector.

3.2 A note on terminology

- 19) South Africa has a 12-year school system. In contrast with other contexts, the term Further Education (or Further Education and Training – FET) is used in South Africa only for pre-tertiary provision and includes the last three years of secondary schooling. Thus in this paper the term 'further education' is used rather than 'senior secondary'.
- 20) In higher education, the standard first degree is a three-year 'general academic' or 'formative' Bachelors. The most common 'vocational' qualification is the three-year National Diploma, formerly offered by 'technikons' but now, following institutional restructuring, by universities of technology and 'comprehensive' universities. In this paper, various terms are used generically for the sake of brevity. For example, 'undergraduate' refers to national diplomas as well as all first degrees.

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:

Factors affecting the higher education sector's capacity to meet national needs

- 21) The 'race' or 'population group' categories used here are those used by Statistics SA with the term 'black' referring to 'African Black'. Such terms are used in the interests of fostering redress.

3.3 The significance of higher education for development

- 22) There is wide recognition of the significance of higher education in contemporary conditions in developing countries, both for international competitiveness in the context of economic globalization, and for internal national development, stability and well-being. The importance attached to higher education is 'founded on recognizing that countries which have managed to sustain high levels of economic growth with significant improvements in the living standards of the masses of their populations are those which have given priority to excellent education and training, and to higher education and training in particular as an agent of socio-economic change and development' (CHE 2004: 14). In South Africa, because of its history, there is also a pressing need to actively redress the legacy of the racial and gender inequalities of apartheid, and to ensure that the benefits of higher education – the direct benefits, in terms of individuals' gaining knowledge and qualifications, and the indirect benefits, in terms of the application of scholarship and research to development and social problems – are equitably spread across all communities.
- 23) Since the time of the political transition, South African higher education policy development has sought to address these twin needs: fostering equity, particularly through replacing apartheid-era structures and practices; and positioning the higher education sector to meet the challenges of development and responsiveness to the contemporary world. It is clear that all three of the main functions of higher education – research, teaching and community engagement – have essential roles, but in practice there are tensions between them which, on the evidence of the performance of the higher education sector, have proved hard to resolve. Research, for example, is key to the 'integrated knowledge solutions [required] to deal with complex socio-economic problems – in developing countries as much as if not more so than elsewhere' (CHE 2004:17), but South Africa's research output has declined steadily over the last two decades (DST 2006). On the other hand, the identification of technical and high-level skills shortages as a major obstacle to development (see for example Jipsa 2006) is *prima facie* an indicator that the educational role of higher education – particularly the production of graduates – is not meeting the country's needs. Addressing these key tensions is a central challenge for higher education policy and practice.
- 24) In accordance with the conference theme, this paper is concerned with the educational function of higher education and, in particular, ways in which it is affected by the school sector and conditions at the interface between further and higher education. Articulation, particularly vertical articulation between the school and university sectors, has been identified as one of the most challenging factors affecting equity of access in South Africa. Moreover, recent research indicates that articulation – along with related factors that are at least partly within the sector's control – also has a substantial bearing on the size and shape of the graduate output of the sector as a whole, and thus on its capacity to meet national needs. Given the high stakes involved, understanding and improving articulation, in all its facets, needs to be a focal point of policy development and implementation.
- 25) These circumstances represent the context for the aims of this paper: to identify key issues affecting the interface between schooling and higher education, and to discuss approaches that may contribute significantly to improving access to and success in higher education, in the wider national interest.

4. ASPECTS OF THE POLICY ENVIRONMENT

26) Various critical accounts of education policy and progress since the political transition have been published (see for example CHE 2004; Kraak and Young 2001; Cloete and Bunting 2000). This section offers just a brief overview of aspects of policy that are relevant to further/higher education articulation and related aspects of higher education performance. The aim is both to give an idea of the policy frameworks that affect these key issues and to facilitate comparison with policy in other African countries.

4.1 Qualifications frameworks and the integration of education and training

27) One of the main post-transition policy instruments designed to improve access to educational opportunities, through *inter alia* facilitating vertical and horizontal articulation at all levels, is the National Qualifications Framework (NQF). The NQF Bill was passed into law as the South African Qualifications Authority Act in 1995 (RSA 1995). The development and functioning of the NQF is overseen by the South African Qualifications Authority (SAQA), made up of members appointed by the Ministers of Education and Labour. Since the NQF has been very controversial in some educational sectors, particularly higher education, it is worth noting some relevant aspects of its origins and features.

28) A central element of post-apartheid education policy has been the goal of integrating education and training. This goal became prominent politically as well as educationally during the transition in reaction to key structural features of the apartheid era, including the exclusionary consequences of the inferior status of vocational education and training, barriers to articulation between vocational and academic or professional education, and a lack of effective means of recognizing experiential learning (which particularly affected black people). The situation was manifested in, for example, the poor image and resourcing of the then-technical colleges, completely separate provision for industrial training, and the binary divide between universities and technikons (the latter institutions having a mandate for predominantly vocational higher education provision). The formal systemic structures, overlaid by the fragmentation and inequalities of apartheid, were justifiably seen by many as creating severe obstacles to student mobility and progression, particularly for black and 'non-traditional' students. There was also a profound distrust of the educational establishment's willingness to genuinely open educational opportunities and facilitate vertical and horizontal articulation; hence there was strong motivation for preferring 'objective' articulation regulations and methods of assessment, rather than approaches that rely primarily on academic judgment.

29) It was against this background that the NQF and SAQA were established as one of the earliest undertakings of the new dispensation. It is noteworthy that this development was primarily an initiative of the labor movement and the new Department of Labour, rather than Education (SAQA 2005). In keeping with the perceived importance of an 'objective' system, the NQF is based on building qualifications through an accumulation of SAQA-approved unit standards, using a uniform credit system¹. The approach has by and large been favorably received by providers of training and vocational education but has been widely criticized within the academic community for, *inter alia*, fragmenting knowledge and thus being antithetical to key elements of the nature of academic education at any level. Many university degree programs have not adopted the SAQA-approved unit standards approach, and strong arguments have been made for alternative structures for higher education. A result of this is that a new Higher Education Qualifications Framework (HEQF) was released in October 2007 after many years of negotiation, as a compromise between SAQA and the higher education sector (see section 4.3.4 below). The debate about the NQF and associated policy has been vigorous and often acrimonious, perhaps mainly because it involves competing educational ideologies and epistemological perspectives.

- 30) While the NQF aims to enable student progression and lifelong learning through seamless vertical and horizontal articulation (including Recognition of Prior (experiential) Learning, or RPL), this goal is still far from being realized in post-secondary education. The complexities of the system and the debate are outside the scope of this paper but some implications for articulation at the further/higher education interface are briefly as follows:
- 31) Individual higher education institutions have a statutory right (DoE 1997a) to set their own entry requirements. These requirements must by law be reasonable, transparent and criterion-referenced (in relation to the academic demands of specific programs), but in practice they also serve to regulate enrolments quantitatively as well as qualitatively. Entry requirements differ markedly between programs and between institutions, not least because of supply-and-demand factors. This means, *inter alia*, that the NQF vision of seamless, criterion-referenced progression breaks down at this level, in that successful completion of the FET phase does not guarantee admission to higher education.
- 32) Horizontal and 'diagonal' articulation between academic and vocational learning is also strongly affected by this situation. In practice, moving from a vocational to an academic track still involves many hurdles, a problem that has not been helped by the delays in introducing the new HEQF. Also, while RPL has been introduced in a number of contexts, its implementation is extremely uneven, not only between disciplines (as is understandable) but also between institutions. A potentially major influence on the relationship between academic, professional and vocational provision is the recent removal of the binary divide through institutional mergers and the establishment of new institutional forms. This is discussed in section 4.3.4 below.
- 33) A related matter is that the contestation over the applicability of the NQF approach to universities has no doubt contributed to lack of progress in establishing a broadly accepted uniform credit system in higher education. One consequence of this is that criteria for inter-institutional transfer – between institutions of the same type as well as between academic and vocational programs – often lack transparency, so student mobility can be affected as much by perceptions as the realities of differential institutional standards. This is not to suggest that it is possible or desirable for higher education programs to be made up of uniform, interchangeable units, but rather that increasing transparency in provision in terms of volume, level and content – along the lines of, say, the European Credit Transfer System (ECTS) – is a necessary condition for optimizing articulation, and hence student mobility, in higher education. It is notable that various African countries, such as Mozambique and Uganda, are currently tackling this issue, and it will be interesting to see if regional co-operation can go beyond broad statements of intent and provide real motivation for progress in this key area.
- 34) The issue of what makes for effective articulation between further and higher education in South Africa is greatly complicated by the legacy of racial (and to some extent gender) inequalities in schooling. It has become evident over the last two decades, partly through the NQF experience, that while clear principles and transparency in requirements are essential, bureaucratic regulation falls well short of what is needed to achieve the twin goals of development and equity in higher education. Rather, what is called for is acceptance of an explicitly developmental approach that takes proper account of existing disparities and focuses on students' potential to succeed as well as their achieved performance. This represents a central theme of this paper, and is elaborated in the sections below.

4.2 Schooling and Further Education

- 35) Two Acts are of particular relevance to the interface between higher education and schooling: (a) the General and Further Education and Training Quality Assurance Act, No. 58 of 2001, and (b) the Policy for the National Senior Certificate (NSC), July 2005.

4.2.1 General and Further Education and Training Quality Assurance Act

- 36) The General and Further Education and Training Quality Assurance (GENFETQA) Act established Umalusiⁱⁱ as the quality assurer in the General and Further Education and Training bands (Levels 1 – 4) of the NQF. Prior to the establishment of Umalusi, the final school-leaving examination, the 'matriculation examination' – more properly known as the Senior Certificate – had been overseen by the Joint Matriculation Board (JMB) and then from 1986 by the South African Certification Council (SAFCERT). While a detailed history is not relevant here, it is interesting to note that in reaction to the JMB's attempts to decentralize control and administration of the Senior Certificate Examination, SAFCERT was charged with centralizing the certification processes, as well as externally moderating all papers and overseeing the standardization of results. The extent to which this responsibility was met has been questioned, for example by Lolwana, who reports that SAFCERT has been accused of 'a selective approach to monitoring standards and of adjusting standards for different racial groups' (Lolwana 2006:8).
- 37) One consequence of this was to conceal what was actually happening in the schools administered by the then-Department of Education and Training (DET, the authority responsible for black African education under apartheid), and goes some way towards explaining why the scale of the educational problem in South Africa was so badly underestimated by the newly elected democratic government and, indeed, sundry education activists and planners. This underestimation, in turn, helped to pave the way in the 1990s for the introduction of the highly ambitious and very complex new curriculum for schools, built on outcomes-based principles, called Curriculum 2005. Recognition of the damage done by this is leading to a back-to-basics movement, exemplified most recently in the launch of the 'Foundations for Learning' program of instruction, which will emphasize reading, writing, counting and calculation, and rigorous, ongoing assessment.
- 38) In contrast to the narrow focus of SAFCERT, which was almost entirely on the Senior Certificate Examination, Umalusi's remit is to monitor and improve the quality of general and further education and training in South Africa. The three key functions are as follows:ⁱⁱⁱ
- monitoring and moderating learner achievements, and issuing certificates at key points
 - evaluating whether providers of education and training have the capacity to deliver and assess qualifications and learning programs and are doing so to expected standards of quality
 - monitoring the standards of qualifications and their associated curricula.
- 39) The extent to which Umalusi is able to carry through these responsibilities and mobilize commitment to improving quality and standards will clearly have a major role in addressing the challenges for successful articulation between further and higher education, as discussed in chapter 7 below.

4.2.2 Policy for the National Senior Certificate (NSC), 2005

- 40) In South Africa, results of the final school-leaving examinations, for which pupils sit at the end of Grade 12, represent the main instrument for selecting students for higher education. Policy and practice relating to these examinations, and the curricula and qualifications they are linked to, are thus key elements in further/higher education articulation.
- 41) The new National Senior Certificate (NSC) will replace the current Senior Certificate as the main school-leaving (Grade 12) qualification in 2008.^{iv} Several examination bodies set Senior Certificate examinations. The most prominent of these are the Department of Education (DoE) itself (with over half a million candidates) and the Independent Examinations Board (with approximately 7,000 candidates). All state schools write the DoE examination, and all Senior Certificate results are issued by Umalusi.
- 42) The Senior Certificate examination, in its present (outgoing) form, has played a critical role in the current education system. It marks the culmination of twelve years of schooling and serves as the entrance into higher education. In terms of the Constitution of South Africa, the Minister of Education is

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

responsible for norms and standards in education, and the provincial authorities are responsible for the actual provision of primary, secondary and further education – conducting examinations is therefore a provincial responsibility. The national Department of Education is not directly involved in the administration of examinations, although it does have a monitoring function to ensure that national standards are maintained.

- 43) The first non-ethnic provincial Senior Certificate examination was written in 1996.
- 44) The current (outgoing) Senior Certificate comprises a very complex set of requirements: the examination is a group one, with a minimum of six subjects from four of six groups; subjects are offered at various levels (Higher, Standard, and Lower Grade); and there are strict language requirements, involving at least two official languages at the Higher Grade level. For matriculation endorsement (eligibility for degree level study), candidates must pass specified subjects at prescribed levels.
- 45) The new certificate, the NSC, will be awarded on achievement of the exit level learning outcomes that are stipulated in the National Curriculum Statement (NCS) Grades 10-12 (General) – a curriculum generally believed to be far superior to the old one, despite misgivings about the system's capacity to implement it effectively at this stage. The NCS is a three-year program of study, over Grades 10-12, which was introduced in 2006. Candidates for the certificate are required to take seven subjects, selected from two groups. From Group A, candidates must take two official South African languages (of which at least one must be at Home Language level, and one of which must be the language of learning and teaching at the school), either Mathematics or Mathematical Literacy, and 'Life Orientation'. From Group B, candidates can select a minimum of any three. With the exception of Life Orientation, all subjects carry 20 credits (Life Orientation carries 10). Candidates need to pass at specified minimum levels in these subjects. In Grade 12, internal assessment counts for 25% of the total mark in all subjects except Life Orientation, which is wholly internally assessed. External assessment thus counts for 75%.
- 46) For higher education eligibility, NSC candidates need to choose at least four subjects from a designated list deemed to be key 'gateway' subjects for higher education. The architecture for admission requirements for different types of programs is as follows (Lotter 2007):
- Higher certificate: NSC with 3 subjects at 40-49% and at least 4 subjects at 30-39%
 - Diploma: NSC with 4 x 20-credit subjects at 40-49%
 - Degree: NSC with 4 x 20-credit subjects from the designated list at 50-59%
- 47) As mentioned earlier, it is important to note that institutions have a statutory right to set their own entry requirements above these – for example, to stipulate certain levels of performance in Mathematics for entry to Engineering. This has resulted in different institutions having significantly different minimum entry criteria.
- 48) The major differences between the old and new qualifications are that differentiation (subjects offered at Higher, Standard and Lower Grades) is done away with in the NSC, and that all students will take a form of mathematics (either Mathematics or Mathematical Literacy). Chapter 7 comments on some likely implications of this change for admission to higher education.
- 49) In relation to the abolition of differentiation, the intention is summed up succinctly in the report of a Ministerial Committee established to investigate the matter of a single certificate at exit level 4:
- Many educators argue that Standard Grade papers tend to demand simple rote learning without understanding or the ability to apply knowledge or transfer skills. They are of the opinion that the current Standard Grade examination perpetuates the iniquities of the Bantu Education system and that all examinations should be set at the same grade (equivalent to the current Higher Grade). (DoE 2002: 14)

- 50) The aim is thus ambitious in relation to improving the quality of the outcomes of schooling through the 'backwash' influence of assessment on teaching and learning. Whether the aim will be achieved, and how it will affect equity, remains to be seen.
- 51) Similarly, the move to make some form of Mathematics compulsory for all NSC candidates is intended to bring about considerable change in the system. Whereas only 63% of Senior Certificate candidates in 2006 (approximately a third of a million) took Mathematics, the vast majority on the Standard Grade, now 100% (about half a million candidates) are taking Mathematics or Mathematical Literacy (Simkins, Rule and Bernstein 2007). On the surface, this is a highly desirable situation. However, unanswered questions about who will teach the extra 170,000 students, and how many teachers are competent to teach the new subject Mathematics, are worrying many educators in the country, not least those involved in higher education.
- 52) In addition to the educational challenges faced in introducing this ambitious new curriculum, the high-stakes political context surrounding the introduction of the new curriculum and certificate at the school/higher education interface suggests that the Department of Education is unlikely to be able to tolerate a rise in failure rates in the new NSC, even where it might be clear that teachers and schools have not at this early stage been able to cope with the demands of the new curricula. It is possible, therefore, that in the first few years the NSC results will not in all instances accurately reflect what students know and can do in various areas.
- 53) In an attempt to assist the higher education sector to better understand and interpret the results of the new NSC, and the Department of Education to track the progress of the new curriculum, Higher Education South Africa (HESA)^v commissioned the National Benchmark Tests Project (NBTP). The purpose of the NBTP is four-fold:
- to assess entry-level academic and quantitative literacy and mathematics proficiency of students;
 - to assess the relationship between higher education entry-level proficiency requirements and school-level exit outcomes;
 - to provide a service to higher education institutions requiring additional information to assist in placement of students in appropriate curricular routes; and
 - to assist with curriculum development, particularly in relation to foundation courses (see section 8.1 below).
- 54) In essence, the NBTs are designed to provide criterion-referenced information to supplement the NSC results, and to help higher education institutions to meet the educational needs of their incoming students as effectively as possible. They will be introduced to assist with entry from 2009.

4.3 Higher education

4.3.1 Core policy: towards balancing development, equity and efficiency

- 55) The core post-transition higher education policy document is the 1997 White Paper, *A Programme for the Transformation of Higher Education* (DoE 1997b). It was informed by a lengthy process of identifying and deliberating on policy options for the new democratic era, the main vehicles for which were the National Education Policy Investigation (NEPI) in the early 1990s and the National Commission on Higher Education (NCHE) in 1995-96. The White Paper took on the demanding challenge of establishing a framework of principles and broad policy that would both address apartheid inequalities and modernize the system, providing a basis for producing research and human resources that would contribute to South Africa's internal development and international competitiveness. It was – and remains – highly regarded as a principled and comprehensive document. It has also been critiqued, however, as constituting 'symbolic' rather than operational policy, accommodating a range of goals that

are inherently in tension rather than making hard choices about direction and priority (see for example CHE 2004:231-232).

56) The task of operationalizing the White Paper was pursued in subsequent policy documents, notably the 2001 National Plan for Higher Education (NPHE) (DoE 2001) and the new higher education funding framework (DoE 2003a). In terms of the topic of this paper, a key aspect of these documents is that, in recognition of throughput problems in higher education, they shifted the policy emphasis from access to student success. The NPHE stressed the importance of focusing on improving the performance of the existing intake rather than just on growth in enrolment. The new funding framework, while retaining a strong element of capitation funding in the form of 'teaching input' subsidy, changed the basis of output-linked funding to reward the production of graduates (rather than being based on credits earned towards qualifications). This has signaled the importance attached to completion of qualifications. In general, the emphasizing of student success (or efficiency in the sector, as some would see it) has significant implications for articulation at the further/higher education interface, as discussed in chapter 8.

57) In terms of educational development in higher education – or Academic Development (AD), as it is commonly known in South Africa – the White Paper represented an important departure from the past in recognizing the need for equity-related educational initiatives to be employed in the higher education sector itself, not just at pre-tertiary levels. A key element of this was the recognition that problems with articulation between further and higher education, particularly for students from disadvantaged backgrounds, were increasing with the widening of access, and were a major cause of systemic dysfunction. The 'articulation gap' had implications for higher education as well as schooling. As the White Paper put it:

In the short to medium term, in order to improve equity of outcomes, the higher education system is required to respond comprehensively to the articulation gap between learners' school attainment and the intellectual demands of higher education programmes. ... [T]he learning deficits are so widespread that systematic changes in higher education programmes (pedagogy, curriculum and the structure of degrees and diplomas) will continue to be needed... (DoE 1997b: 2.32)

58) The NPHE and the new funding framework took forward the White Paper's commitment to resourcing AD programs, which would 'be given due weight and status as integral elements of a higher education system committed to redress and to improving the quality of learning and teaching' (DoE 1997b: 2.34). Equity-related provision fitted in with the new emphasis on improving output in that it was seen as a key means of facilitating the success of students from disadvantaged educational backgrounds, who were constituting a growing proportion of the intake.

59) The key role of further/higher education articulation in balancing equity, efficiency and development is outlined in chapters 7 and 8 below.

4.3.2 Quality assurance

60) Quality assurance is a key instrument of education policy in South Africa. The Higher Education Act (DoE 1997a) established the CHE, through its standing Higher Education Quality Committee (HEQC), as a primary quality assurance authority for higher education. Detailed discussion of quality assurance issues is outside the scope of this paper, but two relevant points may be noted.

61) First, quality policy for higher education in South Africa has deliberately embraced the concept of 'fitness of purpose' as well as 'fitness for purpose'. This expresses the recognition that, particularly in view of South Africa's history, what institutions set out to do – including their approaches to equity and inclusiveness and how they align themselves with national developmental needs – is a key consideration, along with how well they carry out their intentions. Since institutional autonomy is established in law (DoE 1997a), this is not a straightforward or uncontroversial matter, but it does mean that institutions are obliged to apply their minds to the 'fitness' of their missions, which is an important criterion for examination in institutional audits. This point is potentially relevant to approaches to articulation.

62) Second, in contrast with the situation in a number of other countries, in South Africa quality assurance is directly linked with quality enhancement, in that the HEQC itself has responsibilities in both these areas. The HEQC is in fact the only statutory body in South Africa (outside of the DoE) that has an explicit mandate for improving the quality of teaching and learning in higher education, which it exercises directly through its Quality Promotion and Capacity Development Directorate and indirectly through its audit and accreditation processes. By initiating projects such as Improving Teaching and Learning for Success (ITLS), from which much of the research for this paper has been drawn, the HEQC has signaled its recognition of systemic issues – such as the further/higher education interface – as significantly affecting educational effectiveness in higher education.

4.3.3 Private higher education

63) As in the case of a number of other African countries, in South Africa private higher education has historically not constituted a large or influential part of the education system^{vi}. In contrast with other countries, however, growth in private higher education in the contemporary period in South Africa came about largely as a result of the negotiated political settlement and the ensuing new Constitution, which allowed for 'independent educational institutions' within a broadly regulated system (RSA 1996:29(3)). The underlying intention was to accommodate different group or religious interests, and the political focus was on primary and secondary schooling. However, private sector groups utilized the new constitutional dispensation to expand provision or establish new higher education provider institutions. (The private providers include for-profit and not-for-profit organizations, including corporate bodies, foreign universities and NGOs.)

64) It may fairly be said, then, that while the NCHE (1996) recognized a role for private providers, private higher education has grown in South Africa largely through opportunity-driven enterprise rather than as a result of purposeful state policy designed as a central strategy to fill gaps in public provision or promote expansion beyond what can be funded by the state, as has been the case in some other countries. In fact, the state for a time imposed a moratorium on the expansion of private higher education because growth appeared to be getting out of control and private provision was very difficult to regulate in the public interest (see for example Scott 2003). The nature and origins of private higher education in South Africa have had important effects on the role it plays in the system, and on matters such as quality assurance and articulation between private and public institutions. A basic legal framework for private higher education was established in the Higher Education Act (DoE 1997*a*) and private provision is included in the mandate of the HEQC, but in other respects accommodating or encouraging private higher education provision does not appear to have been high on the policy agenda. For detailed accounts of this sector in South Africa, see for example Kruss (2004) and Mabizela (2001).

4.3.4 'Reconfiguring the institutional landscape' and the HEQF

65) Arguably the most radical state initiative in higher education since the transition has been the 'reconfiguring of the institutional landscape', which has taken the form of wide-ranging institutional mergers and incorporations (for the rationale for this development, see DoE 2001:4.3). The expressed purposes of this initiative included the removal of formal and informal apartheid-era institutional categories and the improvement of quality through more efficient institutional management.

66) For the purposes of this paper, perhaps the most notable aspect of the reconfiguration is the removal of the binary divide between the universities and the former technikons, which provided primarily vocational or career-focused^{vii} education and training. Merged former technikons have become Universities of Technology, and institutions that offer both university and technikon-type programs (arising mainly from the merging of former universities and technikons) are known as 'Comprehensive'.

67) Alongside the need to break away from the apartheid-era categorizations, the removal of the binary divide was intended to advance the goals of inter-institutional articulation and the integration of

education and training (see section 4.1 above). To complement the institutional restructuring, the DoE has recently published a new Higher Education Qualifications Framework (HEQF) (DoE 2007a). The HEQF recognizes that '(s)eparate and parallel qualifications structures for universities and technikons have hindered the articulation of programs and transfer of students between programs and higher education institutions', and thus seeks to provide 'a single qualifications framework applicable to all higher education institutions' (DoE 2007a:3). The HEQF is also intended to 'facilitate articulation between further and higher education' but emphasizes that, as discussed earlier, 'the possession of a qualification does not guarantee a student's progression and admission to a program of study' since higher education institutions have the right and responsibility to set their own admission criteria individually (*ibid*: 14).

68) Discussion of the details and controversial features of the HEQF are outside the scope of this paper but the following points may be noted:

- The HEQF provides a single framework that covers academic, professional and vocational qualifications, with outcome descriptors for each qualification, and with different layers of specificity ranging from generic level descriptors to specific program outcomes.
- It uses a standard (NQF) credit system based on normative student workload (notional study hours).
- It encourages program diversity and innovation within the broad framework.
- It applies to all higher education providers, public and private.
- It intends to 'facilitate vertical, horizontal and diagonal progression', including mobility between vocational and academic programs.

69) The HEQF thus provides a basis for developing effective articulation in the interests of student mobility and thus of equity and development. In practice, however, many issues and challenges remain, such as the following:

- In the first instance, it will no doubt take considerable time for the actual learning outcomes of the new NSC to be properly assessed in terms of preparation for higher education, and many institutions are likely to adopt a conservative approach in the interim. Moreover, the HEQF does not in itself address the need to accommodate diversity in students' educational background and levels of preparedness in access to higher education (as discussed in later sections).
- While articulation within higher education is not a core topic of this paper, it can be noted that the HEQF provides only the broadest guidelines for horizontal and diagonal articulation, which are the most problematic forms, particularly in relation to vocational/academic mobility. The HEQF emphasizes that The general principle must be that the admitting institution is satisfied that the applicant has competence in the appropriate field of intended study at the appropriate entry level of the target qualification. (*ibid*:15)

Since 'university' and 'technikon-type' programs continue to be quite distinct in practice, even when they are offered within the same institution, mobility will continue to depend on academic judgment, the fairness and effectiveness of which will be greatly facilitated by transparency and quality assurance. South Africa is still some way from any sector-wide credit accumulation and transfer (CAT) scheme.

70) The future advancement of equity and efficiency through articulation and mobility is thus likely to depend more on sound and transparent educational practices, as well as curricular innovation, than on institutional restructuring and formal regulation *per se*, important though the latter are symbolically and as a basis for development.

71) In summary, it is fair to say that the principles underlying South African education policy are strongly supportive of the national imperatives of equity and development, and offer a platform for identifying and disseminating strategies for pursuing these goals and balancing the tensions between them.

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:

Factors affecting the higher education sector's capacity to meet national needs

However, the extent to which such strategies are being effectively implemented across the sector must be assessed on the basis of the actual performance of the sector. The chapters following provide an overview and brief analysis of current student performance patterns, in the school and higher education sectors, as an essential backdrop to considering systemic issues affecting capacity to meet national educational needs, with particular reference to further/higher education articulation.

5. SCHOOL PERFORMANCE PATTERNS AND ISSUES ARISING

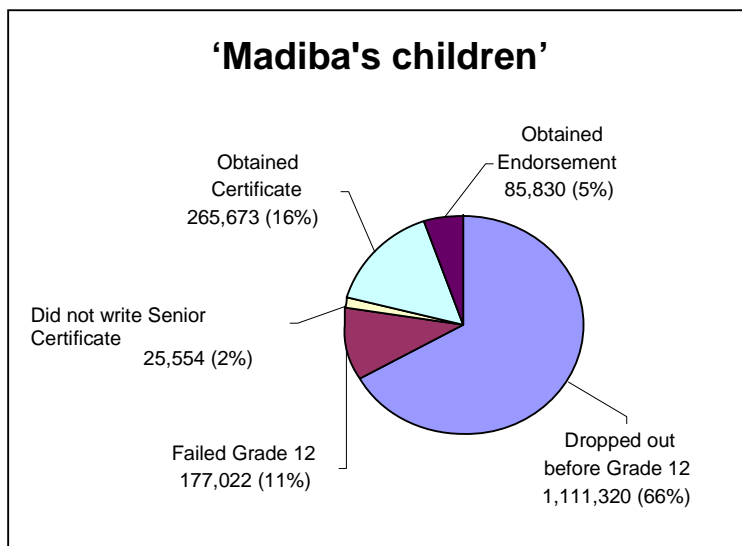
72) The importance of the schooling system for national development is virtually universally recognized – not least in developing countries – in that it must provide a basis for self-actualization, (self-)employment, further training, higher education, and responsible citizenship. Quality, appropriateness and equity in school provision thus need to be carefully analyzed in terms of the system's capacity to meet these goals. The analysis of schooling in this paper focuses primarily on the extent to which the school sector is meeting, or can be relied upon to meet, the needs of higher education in pursuing its own mandate for producing good graduates.

5.1 Performance patterns in the school sector

73) South Africa has a high proportion of its school-going age cohorts actually in school, but the dropout rates are very high. Recent studies (Umalusi 2007b) comparing syllabuses and examinations in South Africa with those in Ghana, Kenya and Zambia suggest that attrition rates in schooling in the four countries are broadly similar, despite the non-South African countries having far more selective and competitive school systems. In those countries, primary and junior secondary examinations act as significant filters for progress to secondary schooling, which is not the case in South Africa. Nevertheless, the attrition rate in South Africa is of concern: this is clearly illustrated by the progress of what has been dubbed by the media 'Madiba's children' – the cohort that entered schooling in 1995, immediately after the advent of democracy in 1994^{viii}.

74) The graph below illustrates the educational progress of the cohort. Of the over 1.6 million learners who entered Grade 1 in 1995, 66% dropped out before reaching Grade 12. Only 21% of the cohort obtained a Senior Certificate, and only 5% (85,830) of the cohort obtained a Senior Certificate endorsement (the statutory requirement for entry to degree study).

Figure 5.1: Senior Certificate 2006: Performance of the 1995 entering cohort



Data sourced from Cembu, N. and SAPA (2006): Concern about drop in university passes. *The Star*, 29.12. 2006

75) In 2006 528,525 full-time candidates entered for the Senior Certificate examination at public schools. The table below shows the proportions of students passing the examination with endorsement (i.e. with

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

the subject grouping and level of pass required for eligibility for first degree study) and without endorsement, disaggregated by gender.

Table 5.1: SC results 2006: full-time candidates with 6 or more subjects according to gender and type of pass

Number passing without endorsement			Number passing with endorsement		
Female	Male	TOTAL	Female	Male	TOTAL
143,007	122,666	265,673	44,431	41,399	85,830

Source: Department of Education: Senior Certificate National Examination Results Technical Report 2006

76) Some relevant points to be made about performance in the 2006 Senior Certificate examination for public schools^{ix} are:

- The pass-rate (with and without endorsement) is 66.5%, the lowest since 2001, perhaps reflecting increasing levels of cognitive complexity in the examination papers.
- The very low number of passes with endorsement is indicative of the crisis in schooling. Only 16.2% of the candidates who entered for the examination obtained passes with endorsement.
- 53.3% of the successful candidates are female. 23.7% of the passes achieved by girls are with endorsement, compared to 25.2% for boys.

77) Results from two recent trend studies indicate the severity of the educational challenge faced by South Africa: the Progress in International Reading Literacy study (PIRL) and the Trends in Mathematics and Science Studies (TIMSS) study. In both of these studies, South African pupils came last.

78) PIRL 2006, conducted locally by the Centre for Evaluation and Assessment at Pretoria University^x, tested 215,000 students from 41 countries^{xi} at grades equivalent to fourth grade in the United States. The study comprises a written test of reading comprehension as well as a series of questionnaires related to factors that impact on the development of reading literacy. In South Africa, about 30,000 pupils from grades 4 and 5, drawn from 400 schools, were tested. The study provides the first reliable baseline data of reading literacy in South Africa, across all eleven official South African languages.

79) Results from the study, released in November 2007, show that almost 80% of South African pupils do not reach the lowest benchmarks. However, the study also reveals the disparity between schools, and thus the continuing legacy of apartheid education. Almost half the pupils whose home language is either English or Afrikaans, and who were tested in their home language, attained at least the lowest benchmark, whereas between 86% and 96% of South African pupils who have an African language (other than Afrikaans) as a home language, who were tested in this language, did not reach the lowest benchmark.

80) A second international study series (from which South Africa has since withdrawn) is TIMSS, also conducted by the IEA. In South Africa, the study was undertaken by the Human Sciences Research Council. South Africa participated in 1995, 1999, and 2003. Table 5.2 below shows the performance of South African students, disaggregated by historical school type (Reddy 2003).

Table 5.2: South African Performance by Country and Former Racially Based Departments: TIMSS 2003

	Math score	Science score
National average	264	244

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

Former African (DET) schools	227	200
Former White schools	456	468
International average	467	474

Source: Reddy (2003)

81) The table shows that:

- overall, the South African national average is only slightly over half that of the international average;
- the performance of the country's advantaged schools is roughly on a par with the international average: however, this mediocre level of achievement is cause for concern as these schools consume a disproportionate share of educational and financial resources and represent the South African peak of performance;
- historically African, disadvantaged schools are performing at very low levels of performance, which suggests that conditions have not improved for the majority of the country's school-goers, and that substantial disparities exist in achievement.

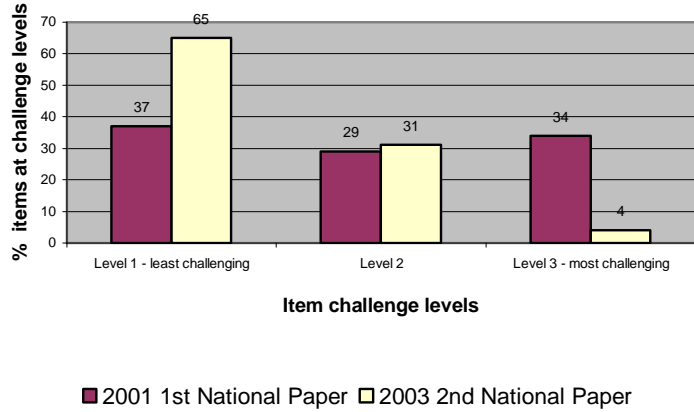
82) South Africa's position at the bottom of the list of 50 participating countries is particularly worrying when compared with poorer countries. The 2003 TIMSS study included five other African countries (Botswana, Egypt, Ghana, Morocco and Tunisia), which share very similar educational challenges and backlogs, such as the fact that instruction for the great majority of students is in a language other than the home language.

5.2 Some issues arising

83) The very poor results reported above inevitably raise the question: why, since South Africa spends a bigger proportion of its gross national product on education than most other developing countries, is our education system so weak? Several explanations can be offered.

84) Despite indications that all was not well with quality in the schools, pass-rates in the Senior Certificate rose dramatically during the tenure of the previous Education Minister, from 57.9% in 2000 to 73.3% in 2003, just three years later. In 2004, Umalusi investigated whether the public perception that standards were dropping in the Senior Certificate was justified or not. The Umalusi study assessed 'conceptual challenge' levels in the national examination papers over the previous few years, and concluded that there had indeed been a decline in the number of challenging items in the papers. For example, in the case of English Additional Language, the subject with the biggest number of registrations, the proportion of relatively challenging items in the examination papers dropped from 34% in 2001 (when the pass-rate in the SC was 68.9%) to 4% in 2003 (when the pass-rate rose to 73.3%).

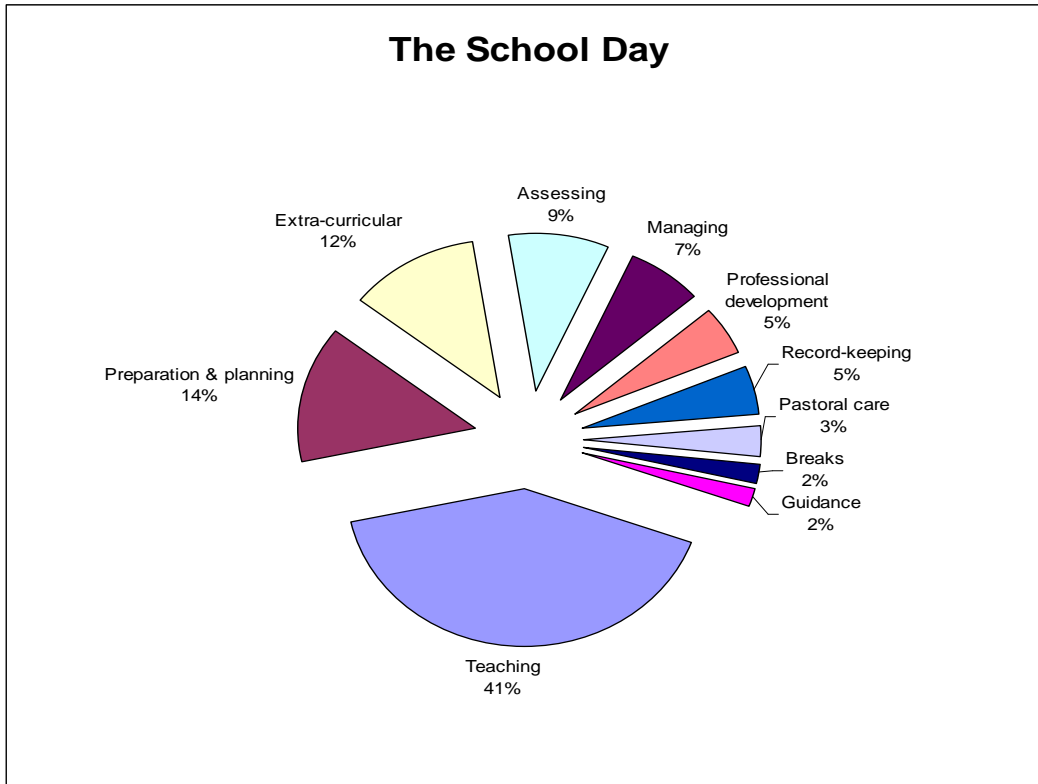
Figure 5.2: 'Challenge levels' of English Second Language SC papers



85) A decline in challenge in the only external examination in schooling is obviously of great concern, as, to a large extent, external examinations set the expectations and standards to which teachers and students aspire. The rapid rise in pass-rates shown above, brought about perhaps by a desire on the part of education bureaucrats to signify improvements in schooling, served instead to confuse teachers and students about expected levels of performance, to anger and amaze the public, and to greatly worry employers and those working in higher education. The national Department of Education has, at least in part as a result of the Umalusi study, insisted on a tightening of examination standards, and this has been reflected in a slight drop in the SC pass-rate, to 65.8% in 2007.

86) A further explanation for South Africa's poor school system is suggested by a recent study by the South African Centre for Development and Enterprise (CDE) into issues affecting the standard of schooling, which investigated the important question of how teachers actually spend their time during the school day (Simkins, Rule and Bernstein 2007). In examining the commonsense assumption that one of the major factors impacting on student performance is the actual time spent covering the syllabus, they found that only 41% of the school day was spent actually teaching. The graph below shows the breakdown of how the time is spent. The authors comment that a disproportionate amount of time is spent on such activities as choirs and sport in the hours scheduled for teaching (the graph does not include extramural activities). Planning and preparation within the school day also occupies a surprising amount of time. One of the problems revealed by this study is the mismatch between what teachers actually do during the school day and what the educational planners assume they do. If the planners assume teachers spend up to 85% of their time actually teaching (Chisholm *et al* 2006), and the provision of teachers occurs on this basis, it is clear that a problem will result if teachers in fact only teach for 41% of the time (or, more generously, for 41% + 9% if one includes assessment as part of teaching).

Figure 5.3: How Teachers Spend their Time (Chisholm et al 2006)



Data on teacher time drawn from a study commissioned by the Education Labour Relations Council 2005, reported in Chisholm et al (2006).

87) The CDE study highlights several other issues impacting on learning effectiveness. These include such matters as teacher content knowledge, so-called progressive educational approaches which perhaps inadvertently downgrade traditional sources of authority and knowledge such as textbooks, and the difficulties in learning through an often poorly mastered language. The findings confirm the conclusions of a 2007 Ministerial Committee set up to study why some schools perform better than others. The qualitative study, entitled 'Schools that Work' (Christie et al 2007), concluded that strong management and clear focus on the core business of schooling (teaching and learning) were the factors that made the difference.

88) A third major factor impacting on educational progress facing South African education is that of language of instruction. South Africa has 11 official languages, and national policy dictates that schools may choose how to implement the overall general policy of 'additive bilingualism'^{xii}. However, as Vinjevold (1999:220) concludes on the basis of research conducted by the National Language Project, parents who choose English-medium schools for their children are perceiving English not '... as a language but as a resource. Delaying acquisition of the resource is incomprehensible to parents.' Thus, parents and the public continue to demand that this resource be provided, despite the difficulties experienced by learners in acquiring initial literacy in a language that is not their first – difficulties which must contribute to the high drop-out and repeater rates in schooling reported by, for example, Crouch (1999) and Crouch and Mabogoane (1997) from the South African context, and in numerous tracer studies and statistics such as those reported earlier in this paper.

89) In response to these difficulties, the DoE has established a number of initiatives. Of these, the Dinaledi program is perhaps the most comprehensive. Dinaledi started in 2001, when 102 schools across the country were selected to benefit from specialized inputs in Mathematics and Science. In 2006 the

number of schools was increased to 400, and in 2007 to 490 (a further increase to 529 is expected). The results to date have been mixed. The department has pointed to the fact that although only 6.5% of all schools were Dinaledi schools, they contributed over a third of black African passes in Higher Grade Mathematics in the Senior Certificate, and almost a third of the passes in Higher Grade Science (DoE 2007*b*). It should be noted, however, that one of the criteria for becoming a Dinaledi school is that the school must have had relatively high passes by African students in these subjects. The CDE study shows that for 220 of the 400 Dinaledi schools, there is as yet no positive impact on results – however, it is still too early to assess the success or failure of the initiative. In order for the Dinaledi program to have a chance of meeting its target of doubling Mathematics and Science passes by the end of 2008, it is essential that several fundamental reforms be implemented, including upgrading the content knowledge of teachers, strengthening the management of improvement initiatives, providing high quality textbooks to all schools, and halting the practice of promoting students to the next grade with inadequate skills and knowledge.

5.3 Assessment of prospects

90) As indicated in the brief analysis above, the South African school system faces major challenges. In terms of its capacity to produce sufficient numbers of school-leavers who meet the traditional higher education entry requirements and expectations, the following summary comments can be made:

- It is evident that the low numbers of higher education candidates being produced by the school system represent a major constraint on growth in higher education. On the evidence of the performance of the 1995 entering cohort, only about one in five of the age-group are at least nominally eligible for some form of higher education, and only about 5% for degree study. Notwithstanding the efforts made to recruit growing numbers of mature adults, the shortage of qualified school-leavers makes it difficult for the higher education sector to make progress towards its target participation rate of 20% (see section 6.2 below). Moreover, acute shortages of candidates with good grades in Mathematics and Science are frustrating attempts to increase graduates in programs that are seen as being especially important for economic development.
- What is probably more important than quantity at this stage is the quality of learning achieved by the candidates for higher education. The legacy of apartheid, and ongoing challenges to learning quality of the kinds outlined above, have powerful negative effects on the preparedness of school-leavers (and of many mature prospective students who were disadvantaged by the system) for the demands of traditional forms of higher education. As is outlined in chapter 6 below, this underpreparedness affects a high proportion of the existing undergraduate intake, profoundly influences transition to higher education, and thus is a key factor affecting successful articulation between further and higher education and hence the production of good graduates. It is also a barrier to equity since, as evidenced by the continuing disparities between schools with different origins, it is largely black communities that are disadvantaged. This situation clearly reinforces the point that successful articulation requires much more than determining objective entry criteria.
- Analysis indicates that the academic community's concerns about the limited pool of candidates and the underpreparedness of the undergraduate intake are generally justified. However, if the problems of meeting national needs for graduates are to be attributed mainly to the shortcomings of schooling (as is commonly the case in higher education institutions), then it is critical to assess the prospects of substantial improvement in the output of the school sector, qualitatively and quantitatively.

We argue that analyses of the school sector, such as those referred to above, indicate clearly that the sector will continue to face major challenges for the foreseeable future. Difficulties such as establishing a coherent, equitable system after such a long history of harsh racial and class disparities, recruiting and training enough good teachers when the majority of the candidates have themselves been disadvantaged by the system, and surmounting the literacy and numeracy problems manifested in the primary phase, are not amenable to quick solutions, even if substantial additional funding were available.

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

- 91) It is concluded from the evidence available that, while continuing efforts to improve schooling (including recent initiatives to strengthen further education outside the regular school sector, particularly in colleges) are essential, it is not realistic to rely predominantly on such improvement to produce the substantial growth in well-prepared candidates that would be needed to solve the problems of graduate production through traditional higher education approaches. This paper therefore argues that, in these circumstances, it is the duty of the higher education sector to actively seek and implement fresh strategies that will enable the learning potential of the student intake to be more successfully realized. The alternative is to accept the continuation of the status quo, with all the negative consequences for national development that this entails.
- 92) This argument is taken forward in the latter sections of the paper. First, however, it is necessary to provide a brief account of current performance patterns in undergraduate education, in order to place the options in context and to give an idea of the systemic issues involved and the kind of responses to be considered, with particular reference to the further/higher education interface.

6. UNDERGRADUATE PERFORMANCE PATTERNS AND ISSUES ARISING

93) There have been major achievements in the higher education sector since the political transition, particularly in developing a policy framework, as discussed in section 4.3. Perhaps the most important advance has been the establishment of a single system out of the highly fragmented and racially divided apartheid-era dispensation. The legislative and high-level policy development challenges involved in this have been complex and time consuming.

94) However, given the significance of higher education output for national development, it has become important to examine how successfully post-transition policy has been translated into improvements in access and student performance. Data on enrolments have been readily available, and valuable studies on access have been undertaken (see for example Cooper and Subotzky 2001; Cloete and Bunting 2000). By contrast, opportunities for gaining detailed views of student performance have only recently arisen, as sector-wide longitudinal data were for a long time not available because of the legacy of institutional divisions and uncoordinated information systems in the apartheid dispensation. The following sections offer a brief overview of aspects of undergraduate enrolment and performance patterns that highlight issues at the further/higher education interface.

Please note: Except where otherwise indicated, the source of the data and tables in this chapter is the CHE's Higher Education Monitor 6: *A case for improving teaching and learning in South African higher education* (Scott, Yeld and Hendry 2007).

6.1 Access and enrolment

95) A concise and valuable account of changes in student access and enrolment is given in the CHE's analysis of higher education in the first ten years of democracy in South Africa (CHE 2004:59-71; 81-85; 90). The data show considerable growth in the size of the sector and marked improvements in access since the political transition, some relevant statistics being as follows:

- Overall headcount enrolment has grown by about 50% since the early 1990s, to around 700,000.
- Black African enrolment more than doubled in the 10 years from 1993, reaching 60% of total enrolment in 2001.
- The number of women enrolled exceeded that of men for the first time in 1999, and the proportion of women has continued to grow.
- Progress has been made in changing the 'shape' of enrolments, which are now close to the target of 40% in Humanities, 30% in SET and 30% in Business and Commerce.
- The proportion of postgraduates in the total enrolment has grown to about one in four.

96) These are significant achievements. It is important to note, however, that the race and gender distribution of the enrolment – across disciplines, qualification types and institutional categories, as well as between undergraduate and postgraduate programs – is still substantially skewed, with black and/or women students under-represented in key professional, SET and postgraduate programs. This, together with continuing racial disparities in participation and performance, means that the gains made in the size, shape and composition of the system need to be interpreted with caution. The following sections offer an outline of key dimensions of the performance of the system.

6.2 Higher education participation

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

97) Gross participation rates – that is, the total number of people (of all ages) enrolled in some form of higher education, expressed as a percentage of the 20-24 age group – represent a fairly crude but nevertheless valuable measure for comparative purposes. It is this gross participation rate that is referred to in this paper.

98) South Africa's overall participation rate is low in comparison with those of countries at a similar stage of economic development. The participation rate in 2001 was 15%, and has grown only marginally since then to an estimated 16% in 2005. The target set in the NPHE, based on participation rates in comparable economies, is 20% in the medium term (DoE 2001:2.2). Developed countries' participation rates commonly exceed 40%.

99) Of greater concern is the disparities in participation rates between South Africa's main population groups, as shown in the following table.

Table 6.1: Gross participation rates: Total enrolment in 2005 as percentage of 20-24 age-group

Overall	16%
White	60%
Indian	51%
Coloured	12%
Black	12%

100) The disparities are exacerbated by disproportionately low enrolment of black people (and in some cases women) in many high-status and scarce-skills areas such as SET, professional and graduate programs.

101) The participation patterns appear not to be widely taken into account in the academic community, yet they represent a key element of the backdrop to understanding and assessing the performance of the sector. They have significant implications for higher education policy and practice, including the following:

- The participation patterns clearly reflect the apartheid legacy of inequalities in schooling and socio-economic conditions. However, this does not alter the fact that, if South Africa is going to be able to meet its developmental needs for high-level skills, a concerted effort has to be made to improve the position substantially. Passive acceptance of the effects of historical inequalities is not a viable option at any level of the education system. What is needed instead is rigorous analysis of the factors affecting productive growth in higher education, and willingness to act in areas where real improvement is feasible.
- It is evident that growth in higher education, particularly in the subject areas where growth is most needed, will have to come predominantly from the under-represented groups, that is the black and coloured communities. This is necessary for reasons of both equity – in that it is not socially and politically sustainable for the higher education sector to continue accommodating such a low proportion of the majority population group – and development – in that increasing the participation of the under-represented groups is key to substantial overall growth.
- The participation patterns appear to be at odds with the growth in overall black enrolment outlined above, but are in fact a striking indicator of how low the base of black participation was before the 1990s. The improvement in black enrolment has led commentators and others in the academic community to take the view that the challenge of representivity in the student sector has largely been

met; however, the participation patterns show that the issue of equity of access is far from being resolved.

- The low black and coloured participation rates indicate that the current intake of students from these communities is in fact a highly selected group. As discussed earlier, there is high attrition in the school sector, only a small proportion of the age group achieve the minimum requirements for entering higher education (particularly degree study), and a number of institutions have additional entry criteria. The black and coloured students who gain admission are thus mostly in the top decile of their groups in terms of achieved performance. Unless the most talented students are somehow still outside the sector, it must be assumed that the current intake of students in these groups – despite the fact that many are underprepared because of poor schooling – generally have the intellectual capacity to succeed in higher education.

This is a key consideration because there is a widespread view in the academic community that a high proportion of the current intake are 'not university material'. It appears that underpreparedness is being conflated with lack of potential to succeed. This view can readily lead faculty and universities to conclude that little or nothing can be done at higher education level to facilitate such students' success – put colloquially, that 'it is not our problem'. We argue that, given the country's developmental needs and the low black participation rates, this is not a tenable position.

102) The participation patterns have significant implications for further/higher education articulation as a key means of regulating and facilitating the flow of students between these major educational phases. This is discussed further below.

103) While improving access is a necessary condition for the sector to meet national needs, access without success is largely meaningless. Given the importance of high-level skills in South Africa, the emphasis in analyzing the effectiveness of the sector needs to be on graduate output, in terms of numbers, mix and quality. The following section offers an overview of what recent research on this topic is showing.

6.3 Higher education throughput and graduation rates

104) This section is intended to offer an overview of aspects of recent undergraduate student performance that provide necessary background to an analysis of further/higher education articulation.

105) The data presented here come mainly from a study conducted by the Centre for Higher Education Development, University of Cape Town, as part of the CHE's 'Improving Teaching and Learning for Success' (ITLS) project (Scott, Yeld and Hendry 2007). The study was made possible by the DoE's recent production of basic cohort analyses of the undergraduate intake into all higher education institutions in 2000 and 2001. These analyses track the performance of first-time entering students until they graduate or leave their institution of original registration without graduating, for up to five years. Longitudinal analyses of this kind are regarded as providing the most reliable and comprehensive view of student performance patterns. The DoE made the cohort data available to the ITLS project for more in-depth analysis, and we much appreciate their pioneering work and their co-operation in this regard.

106) The following data selected from the DoE and ITLS studies are provided to show key student performance patterns across the sector. Because of lack of full comparability between the 2000 and 2001 cohort studies, only 2000 cohort data are presented here, but the same broad patterns are clearly evident in the 2001 data. The data cover first-time entering students, who constitute the great majority of the intake.

6.3.1 Overall undergraduate completion and attrition

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

- 107) The DoE's figures show that after five years, the progression of the 2000 intake of approximately 120,000 – most of whom would have been undertaking three-year programs – was as follows:

Table 6.2: Performance after 5 years: All first-time entering students

Graduated within 5 years	30%
Left without graduating	56%
Still registered	14%
Estimated 'final' completion rate	44%

- 108) The category 'left without graduating' refers to students leaving their institution of original registration. The DoE estimates that 10% to 11% of these students transfer to other institutions. If it is assumed, rather optimistically, that 70% of transferring students, plus 70% of those still registered after five years, will eventually graduate, then the 'final' cohort completion rate would be 44%.
- 109) The sector-wide attrition revealed in these figures is highly disturbing. The number of students 'lost' from the cohort is approximately 65,000. The under-utilization of the country's talent evident here is particularly serious in the current environment of scarcity of high-level skills, and constitutes an obstacle to development.
- 110) The overall figures include students in distance education, who represent a substantial proportion (some 32%) of the first-time entering intake. As would be expected, the throughput rates of the distance education institutions (the University of South Africa and the former Technikon SA) are lower than those of the 'contact' institutions, and this negatively affects the overall performance of the sector. However, while differentials in efficiency between distance and contact education are understandable, it is important to bear in mind that distance education output is a key element of graduate production in South Africa because of the significant proportion of participation represented there. The performance of distance education institutions should therefore not be discounted as somehow irrelevant or unable to be improved.
- 111) Important though the overall figures are, performance patterns that can point to key underlying problems – and thus indicate priority areas for focusing improvement efforts – can only be identified by disaggregation of the data, by parameters such as race, gender, qualification type, subject area and educational background. Because of limitations of the current higher education information system, much in-depth analysis of this kind has not yet been feasible. However, the ITLS project has disaggregated the available cohort data by some key parameters, and selected data are presented below to give a broad idea of current performance patterns for different programs and student groups.

6.3.2 Contact university degree programs

- 112) Contact university degree programs constitute the best-performing sub-sector of undergraduate provision. Even so, only 50% of the 2000 cohort graduated within five years. Disaggregating the data by qualification type and 'CESM' – that is, 'Classification of Educational Subject Matter', a term used in the information system – indicates that there is substantial attrition across a range of key subject areas. The CESMs shown in the tables below were selected on the basis of large enrolment and/or strategic significance^{xiii}.
- 113) The following table covers three-year degree programs, where most university undergraduate enrolment is concentrated:

Table 6.3: Performance in general academic first B-degrees, by selected CESM: All first-time entering students excluding UNISA (distance education)

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

<i>CESM</i>	<i>Graduated within 5 years</i>	<i>Still registered after 5 years</i>
04: Business/Management	50%	7%
15: Life and Physical Sciences	47%	13%
16: Mathematical Sciences	51%	9%
22: Social Sciences	53%	6%
12: Languages	47%	7%

114) The following table covers students entering four-year professional Bachelors degrees, which are commonly highly selective:

Table 6.4: Performance in professional first Bachelors degrees, by selected CESM: All first-time entering students excluding UNISA (distance education)

<i>CESM</i>	<i>Graduated within 5 years</i>	<i>Still registered after 5 years</i>
04: Business/Management ^{xiv}	60%	7%
08: Engineering	54%	19%
12: Languages	42%	13%
13: Law	31%	15%

115) Even if it is assumed that 70% of transferees and those still registered after five years will graduate, high attrition is evident in many university programs: among the key CESMs analyzed across all first degrees, there are only two cases where the final cohort attrition rate can be under 40% (and both of these cases are highly selective professional programs).

6.3.3 Contact 'technikon' programs^{xv}

116) The performance of the 2000 contact technikon cohort was notably lower than that of the contact university intake. After five years 58% had left or transferred without graduating, and only 32% had graduated.

117) The following table covers students entering three-year national diploma programs, where the enrolment is concentrated:

Table 6.5: Performance in National Diplomas, by selected CESM: All first-time entering students excluding Technikon SA (distance education)

<i>CESM</i>	<i>Grad within 5 years</i>	<i>Still registered after 5 years</i>
04: Business/Management	33%	8%
06: Computer Science	34%	11%
08: Engineering	17%	14%

21: Social Services/Public Administration	29%	6%
---	-----	----

118) The figures here are illustrative of high attrition across key subject areas. Among the key CESMs analyzed, there are no cases where the loss from the intake may be less than 50%. The shortages of technological skills in South Africa have highlighted the importance of vocational education, but it is evident that the policy efforts made to redress the historical imbalance between 'academic' and 'career-focused' provision are not yet meeting expectations or needs.

6.3.4 'Equity of outcomes'

119) As noted earlier, in South Africa the dominant conceptions of development are closely bound up with the need for equity, particularly the redress of historical racial disparities. This applies as much to higher education as to any other sphere. Before and around the time of the political transition, equity was equated in many quarters primarily with access. However, as the complexities of racial and class inequalities have been uncovered, there has been increasing recognition that access does not automatically lead to success, that access without success is not meaningful, and that particular attention has to be given to fostering 'equity of outcomes', to use the term introduced in the White Paper on higher education (DoE 1997).

120) While racial disparities in higher education performance have been recognized for a long time, the extent of the challenge across the sector has emerged clearly in the recent ITLS research. The following tables have been selected to provide an overview.

Table 6.6: Graduation within 5 years in general academic first Bachelors degrees, by selected CESM and 'race': First-time entering students excluding UNISA (distance education)

CESM	Black	White
04: Business/Management	33%	72%
15: Life and Physical Sciences	31%	63%
16: Mathematical Sciences	35%	63%
22: Social Sciences	34%	68%
12: Languages	32%	68%

121) The disparities in five-year completion rates are at least as marked in the four-year professional Bachelors programs. In summary, among the CESMs and qualification types analyzed in the contact university programs, in almost all cases the black completion rate is less than half the white completion rate. The inclusion of UNISA (distance education) students does not make a substantial difference to the white/black five-year completion ratios in the CESMs studied.

122) The position in the (three-year) National Diplomas is different, as shown in the following table.

Table 6.7: Graduation within 5 years in National Diplomas, by selected CESM and race: First-time entering students excluding Technikon SA (distance education)

CESM	Black	White
04: Business/Management	31%	44%
06: Computer Science	33%	43%
08: Engineering	16%	28%

21: Social Services/Public Administration	29%	23%
---	-----	-----

- 123) In the CESMs studied, the black and white completion rates are notably closer together. However, the great majority of the enrolment in these programs is black, so the poor completion rates indicate a serious loss of potential black graduates. Again, incorporating distance education students makes little difference to the black/white ratios.
- 124) The high levels of attrition and ongoing racial disparities in participation and graduation rates have adverse consequences for national development, and have important implications for the education system as a whole, not least articulation between the school and higher education sectors. The following section outlines some brief observations on the performance patterns and some key issues for the system.

6.4 Some observations and issues

- 125) Although comprehensive cohort studies have been carried out on only two intakes, it is evident from institutional data and experience across the sector that the performance patterns outlined above are long-standing. The persistence of the patterns indicates that they will not change spontaneously: concerted efforts will need to be made to change the key underlying conditions that cause them.
- 126) The performance patterns clearly reflect the legacy of apartheid and the difficulty of redressing embedded inequalities. While it is important to recognize this, there is also a danger that the persistence of severe educational disparities, along with the resultant under-performance of the sector as a whole, is consciously or unconsciously accepted by the educational establishment – particularly the academic community – as being unavoidable, at least for a generation. Given the importance of higher education in the contemporary world, passive acceptance of the status quo must inevitably have serious consequences for national development and the exacerbation of the North-South divide. We argue that it is therefore critical for all sectors of the education system to identify the conditions that are perpetuating the current performance patterns, and to decisively address those factors that are within their control, with the aim of better meeting national needs. This is discussed further below.
- 127) The gains made in widening access to higher education are being neutralized by high attrition and, in particular, by lack of equity of outcomes. For example, in the CESMs analyzed by ITLS in undergraduate degree programs, the absolute number of black graduates was consistently lower than that of whites, even where the majority of the enrolment was black.
- 128) The accessibility of higher education in South Africa can be compared with that in other African countries. While detailed comparative research on this topic is still to be done, it is evident that obstacles or filters affecting student progression can occur at different stages of the education system in different countries – typically at the end of primary or junior secondary school, or between further and higher education, and between undergraduate and postgraduate study. The factors affecting progression range from socio-economic conditions to filters based on conventional academic performance criteria. In South Africa, while substantial attrition still occurs at various points of the school system, enrolment in undergraduate education has increased (as outlined in sections 5.1 and 6.1). However, as access has widened, obstacles and filters *within* higher education have emerged more clearly. As throughput figures show, attrition occurs most commonly at the end of the first year, but is clearly significant at other undergraduate levels too (see for example Scott, Yeld and Hendry 2007: 28).
- 129) Two inter-related points arise here that are relevant to this paper. First, whether obstacles to progression occur before or within higher education, their effects on graduate output are much the same. Unless compensatory mechanisms are put in place, it is predominantly students (or aspirant students) from disadvantaged socio-economic or educational backgrounds who do not succeed in gaining a higher education qualification.

- 130) Second, focusing only on improving access is not sufficient to bring about efficient growth in graduate output or equity of outcomes. To achieve these outcomes, what is required – in addition to material support – is effective continuity through the various phases of the education system, including articulation mechanisms that are not just formulaic but take full account of student learning needs at key points of transition. These issues are discussed in the chapters below.
- 131) In the South African context, the performance patterns show that improving equity – of access and outcomes – is the key to improving graduate output overall. In terms of participation, growth must come primarily from the most under-represented groups, that is the black and coloured communities. In terms of efficiency, while no group can be said to be performing optimally, improving the performance of the most under-performing groups is essential for achieving the substantial growth in graduate output that is needed for development. Equity – together with the strategies that foster it – has thus become critical for economic growth as well as for socio-political cohesion.
- 132) The groups from which graduate growth must primarily come are those that are least well served by the current education system. This points clearly to the presence of systemic problems that need to be purposefully addressed, in the interests of national development. As argued in chapter 5, there is much evidence to indicate that improvement of schooling cannot be relied on as the sole or primary means of overcoming the performance problems in higher education. It follows that, despite the common academic view that it is not the responsibility of higher education to compensate for deficiencies in schooling, the higher education sector has an obligation to identify and address systemic challenges that are within its sphere of responsibility and influence, as a key element of its contribution to transformation.
- 133) It is of course fully acknowledged that there are major factors affecting educational performance – particularly socio-economic conditions – that are outside of the education system's control, and that there are clear limitations on the higher education sector's resources. However, experience with educational development over the last two decades indicates that there are key areas of the educational process in higher education where alternative approaches can make a significant difference to student performance, particularly through improving understanding of students' learning potential and using this to facilitate equity of opportunity and outcomes.
- 134) Work in this area has been extensive but is still confined to the periphery in many institutions. The challenge now is for successful developmental approaches to be drawn into mainstream educational practice in the universities. Recognition of the organic links between equity and overall system performance in the South African context is at the heart of the case for this. The alternative is the persistence of entrenched obstacles to equity and efficiency, and of lack of capacity in the sector to meet the country's growing need for high-level human resource development.
- 135) The remaining two chapters focus on two key aspects of further/higher education articulation that have a substantial bearing on equity and efficiency in higher education, viz. student selection and accommodating diversity in the curriculum.

7. ASSESSMENT AT THE INTERFACE

136) Understanding what makes for effective articulation between major educational phases, particularly between further and higher education, is an essential element of the educational improvement agenda in South Africa. As observed at various points in this paper, successful articulation requires much more than a well-designed qualifications framework and fair, justifiable and transparent progression criteria, fundamental though these are. The real goal of articulation needs to be seen not just as regulating the interface between phases but as facilitating successful transition, which will be manifested in turn in successful completion of the higher phase. In the case of the further/higher education interface, this involves two key, complementary aspects: selecting students equitably, on the basis of their ability or potential to succeed in higher education; and ensuring that higher education provision – particularly in the early stages of higher education – has the capacity both to meet the legitimate and diverse learning needs of the student intake and to ensure that appropriate exit standards and learning outcomes are properly met. This chapter focuses on issues in student selection.

7.1 Development of alternative access mechanisms

137) As outlined in chapter 5, it is clear that the general levels of schooling in South Africa are cause for concern. For higher education, the low levels pose problems, particularly in the areas of selection and access, as well as placement into appropriately designed curricula. Put differently, the major concerns relating to higher education selection, admissions and access can be summarized as follows:

- There are simply not enough students with endorsement passes, particularly in Mathematics and Science, to fill the higher education places required to meet the country's needs for high-level skills.
- The low levels of preparation of even the tiny elite who currently obtain a Senior Certificate with endorsement (about 16% of the candidates who write the examination) mean that the majority of the intake are underprepared for traditional first-year courses, and consequently that placement into more appropriate curriculum provision is essential.
- A growing body of evidence (Yeld 2001; Yeld and Haack 1997; Herman 1995; Barsby *et al* 1994; Badsha *et al* 1986) suggests that Senior Certificate results in the below 60% aggregate range do not effectively predict future academic performance. Universities are therefore faced with the highly unsatisfactory situation of having to select a considerable proportion of their students on a basis known to be unreliable.

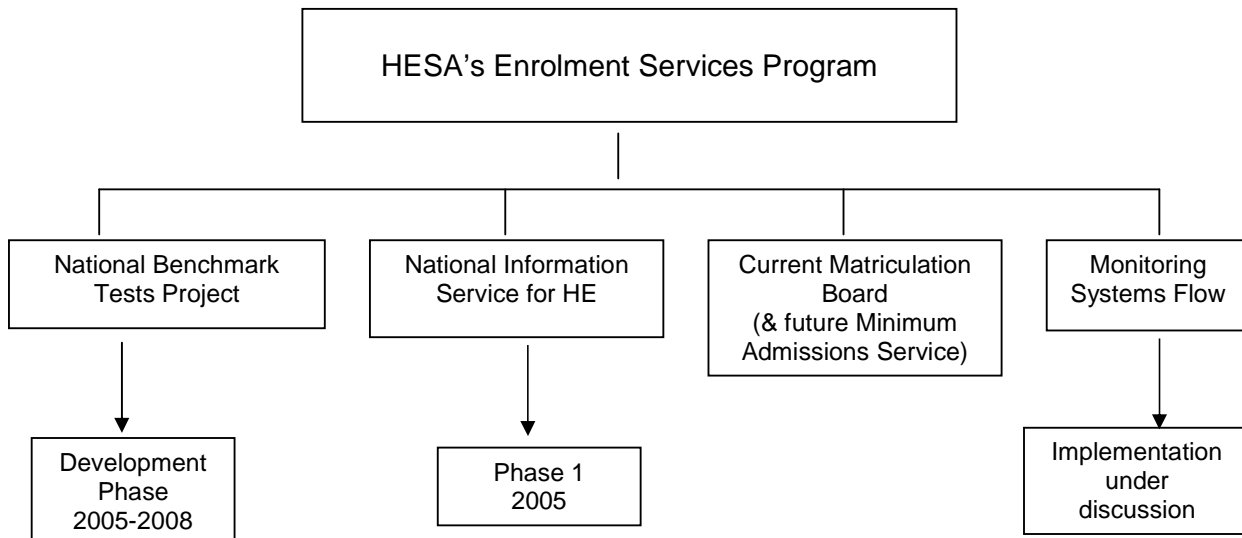
138) Assessment of students at the interface between further and higher education carries high stakes in that it largely determines university entrance, and thus bears the burden of shaping access to what is a key resource for individual advancement as well as the public good. Because of its power to exclude, it has a controversial history in South Africa. In particular, reliance on the racially segregated school-leaving examinations in the apartheid era generated resistance and a need to explore alternative forms of assessment, designed to allow for fairer student selection processes that would take account of entrenched disparities. The persistence of the apartheid legacy and socio-economic disparities has meant that this area of educational development has continued to be very significant.

139) Given the historically highly skewed nature of educational provision and consequently of performance in South Africa, higher education is legally obliged to comply with both constitutional and statutory requirements for redress. This is provided for explicitly in the South African Constitution (RSA 1996), which stipulates in the Bill of Rights that 'Equality includes the full and equal enjoyment of all rights and freedoms. To promote the achievement of equality, legislative and other measures designed to protect or advance persons, or categories of persons, disadvantaged by unfair discrimination, may be taken.'

140) Taking its cue from this, the Preamble to the Higher Education Act (DoE 1997a) explicitly requires the admissions policy of each public higher education institution to specify publicly how it intends to make provision for the redress of past inequality.

141) In recognition of the complexity of the admissions terrain in South Africa, Higher Education South Africa (HESA) is in the process of developing a range of enrolment services, as illustrated below.

Figure 7.1: HESA enrolment services



142) According to Griesel (2006: 3), ‘... the idea of a responsive higher education enrolment system offering a range of services to students, institutions and the sector reaches back to the access imperatives of the late 1980s and early 1990s, and the concern with equity and quality of opportunity’. The services therefore currently include assessment services for alternative or additional information to that provided by the school system, and a comprehensive information service about higher education offerings. They will in future include career advice and materials, mechanisms for setting and monitoring statutory regulations for entrance, and the provision of capacity to ‘... provide accurate information and analyses on system flow, efficiencies and strategic sector action that may be deemed necessary’ (op cit:1).

143) As noted earlier, the regular route for entry to degree study has been a Senior Certificate with endorsement. However, in the late 1990s a new access route, known as the ‘Senate Discretion’ route, was introduced, widening access to higher education as follows: ‘ The Committee of [University] Principals shall issue a certificate of conditional exemption [endorsement] to a person who, in the opinion of the Senate of a university, had demonstrated, in a selection process approved by that senate, that he/she is suitable for admission to bachelor’s degree studies, which certificate shall be valid for admission to that university only’ (amendment to Regulation 28 of the Matriculation Board’s exemption requirements). The majority of institutions have identified, as their selection process, the use of tests in the core generic areas of academic literacy, numeracy and mathematics^{xvi}, coupled with placement on to extended programs (see chapter 8) or some form of remedial provision.

144) According to the Director of the Matriculation Board, approximately 6,000 Senate Discretion certificates were awarded to candidates entering higher education in 2006 (C. Lotter, pers. comm.). This represents about 4% of entering first years across the system, making it a small but significant access opportunity. At this stage, Recognition of Prior Learning (RPL) procedures and processes – another officially supported means of alternative access – are not a major route into higher education for

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

undergraduate study. By and large, students entering at this level do so via tests approved as part of institutional Senate Discretion routes.

- 145) Table 7.1 below shows the score ranges between historically advantaged and disadvantaged schools, illustrating clearly the difference in performance between the two school types.

Table 7.1: Performance Data from the Alternative Admissions Research Project 2006

Score ranges	Placement Test in English for Educational Purposes (PTEEP)		Mathematics Test	
	Former African (DET) Schools	Historically Advantaged Schools	Former African (DET) Schools	Historically Advantaged Schools
Top 30%	45 - 57	75 - 79	50 - 66	81 - 91
Middle 30%	34 - 44	68 - 74	34 - 49	66 - 80
Bottom 40%	12 - 33	28 - 67	0 - 33	19 - 65

- 146) It can be seen that if admissions offers were to be made only to the top achievers of the overall applicant pool, very few ex-DET students would be admitted. Clearly, some more relative measure is needed if South African higher education is to admit talented students in a context of very diverse and overwhelmingly poor prior schooling.

- 147) In order to meet this daunting selection challenge, several small-scale projects have been undertaken in South Africa to investigate the success of alternative access routes and mechanisms. On the whole, however, they have tended to be tied to curriculum development initiatives, and thus are difficult to evaluate in terms of selection. Studies into their success have also tended to be restricted to first-year performance rather than graduation. Important selection-related projects and initiatives in South Africa of this kind are (or were, since the majority have been discontinued): the UNIFY (University Foundation Year) program in Mathematics and Science at the University of Limpopo; the College of Science at the University of the Witwatersrand; and the TTT (Teach Test Teach) project at the then-University of Natal (now the University of KwaZulu-Natal).

- 148) From the point of view of assessing the effectiveness of alternative admissions procedures, the Alternative Admissions Research Project (AARP), based at the University of Cape Town (UCT), is perhaps the most promising, as it tests sizeable numbers of candidates at 20 of the country's 23 higher education institutions, and recommends students for a wide range of programs. The findings are thus somewhat independent of specific instructional effects, and the reliability and validity of the AARP tests have been rigorously evaluated (for example, see Haeck et al 1993, Yeld 2001).

- 149) The AARP Project consistently makes the point in annual reports that good performance in either the AARP assessments or the Senior Certificate (or both) is a reasonable predictor of success in higher education. Research on the performance of students admitted to the University of Cape Town^{xvii} has shown, however, that for students from educationally disadvantaged as well as advantaged backgrounds, those who achieve good results on the AARP tests will have lower exclusion and higher graduation rates than students who do poorly on the tests, irrespective of their Senior Certificate scores (in other words, the AARP results predict graduation success more consistently than do the results of the Senior Certificate examinations).

- 150) The essential differences between the Senior Certificate examinations and the AARP tests are as follows: the Senior Certificate examinations are achievement tests, based on school subjects (History, Biology, etc.), whereas the AARP tests are tests of potential in the domains of Academic Literacy and Mathematics. The AARP tests are thus not curriculum-aligned, and are carefully constructed to elicit meaningful test performances that do not simply replicate those of the Senior Certificate. For example, the Academic Literacy tests include instructional components which research has shown to alter

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:

Factors affecting the higher education sector's capacity to meet national needs

performance, and the Mathematics tests set out to teach and test content that is not covered in the school curriculum, and provide instructional scaffolding throughout the test.

- 151) Student performance on such tests is quite considerably different from their performance on traditional achievement tests, where prior opportunity to learn, rather than 'potential', is privileged. The enhanced performance of talented but educationally disadvantaged students (it is important to note that weak students tend to continue to perform poorly in this approach) has resulted in access to higher education being gained by many hundreds of educationally disadvantaged students who would otherwise not have been admitted.
- 152) While (as always) more research is needed, the AARP experience suggests that alternative admissions procedures can indeed provide a route into higher education for students who will overcome prior disadvantage, particularly when their educational needs are identified and met. This crucial caveat is discussed in chapter 8 below.
- 153) It should be noted that whereas the AARP tests set out to minimize the effects of prior schooling, and thus to widen participation by providing an alternative means of identifying talent, the National Benchmark Tests (see section 4.2.2) have a very different goal. In a nutshell, the National Benchmark Tests will simply provide a snapshot of what students have learned and achieved in the three domains covered by the tests (Academic Literacy, Quantitative Literacy, and Mathematics). The aim of the NBTs is to provide accurate information on the basis of which institutions can ensure that their academic offerings genuinely meet the educational needs of their students.

8. SOME IMPLICATIONS FOR TEACHING AND LEARNING IN HIGHER EDUCATION

- 154) Chapter 7 has argued that, in the South African context, selecting students on the basis of their potential to succeed, rather than only on achieved performance, is a necessary condition for advancing equity and hence for improving participation and graduate output overall. It is not, however, a sufficient condition. Given the ongoing effects of the apartheid legacy on schooling, alternative forms of selection mean, by design, that opportunities are given to increasing numbers of students who are talented (often within the top decile of their group) but significantly underprepared for the demands of traditional undergraduate programs. If such students are exposed only to the traditional curricula and approaches, experience has shown that the great majority – particularly in professional and SET programs that require proficiency in mathematics and/or precision in academic language – do not succeed, and drop out or are excluded on academic grounds. This constitutes the ‘revolving door’, where access is short-lived and not meaningful.
- 155) The prevalence of the revolving door in South Africa is plainly evident in the performance patterns outlined in chapter 6. Its cost to the country, even if this is calculated in the most basic way, i.e. in terms of state subsidy spent on students who do not graduate, runs into billions of rands a year. The most important cost, however, is in the under-development of much of the country's talent, which, in an environment of scarce skills and chronic social and health problems, should not be accepted. Government has indicated its view of the importance of this matter in (as noted earlier) shifting emphasis from access and growth towards success, as measured in completed qualifications (DoE 2001; 2003).
- 156) Two decades of experience with Academic Development (AD) in South Africa has confirmed that, to enable talented but educationally disadvantaged students to have a realistic opportunity to succeed – in the terminology of the 1997 White Paper, to promote equity of outcomes as well as equity of access – it is essential for developmental selection to be complemented by educational strategies within the universities that are able accommodate diverse educational backgrounds. This is a complex topic, detailed discussion of which is not possible here, but two key types of equity-related strategies are outlined below by way of examples of what needs to be done to ensure that developmental approaches to articulation lead on to student success.

8.1 Curriculum reform: ‘Extended programs’ and beyond

- 157) Since the underpreparedness associated with poor schooling has primarily affected black people in South Africa, effective further/higher education articulation has been identified as a key area of research and development by AD specialists since the 1980s. The ‘articulation gap’ resulting from a mismatch between the outcomes of black schooling and the demands of traditional courses was recognized at an early stage of AD work as a systemic fault that was caused not only by the deficiencies of the school system but also by the inability or unwillingness of higher education institutions to adapt their practices to accommodate a changing student body.
- 158) There are a number of indicators that the articulation gap remains a systemic problem requiring systemic responses rather than peripheral supportive or remedial activities. The indicators include: the shortages of (mainly black) school-leavers meeting the traditional selection criteria, particularly in the case of SET and professional programs; high first-year attrition rates, pointing to large-scale under-preparedness for the transition to higher education; and the fact that, despite the selectivity of the higher education system, only a small minority graduate in the regulation time in most programs (under one in three of all students excluding those in distance education, and a much smaller proportion of black students), indicating that few students succeed in following the traditional curricula as they are formally planned (Scott *et al* 2007:23-29).

- 159) The articulation gap is also complex, involving not only subject knowledge but also conceptual development, academic language proficiency and other academic literacies, and approaches to study. It should not be surprising, then, that there is ample evidence in institutional experience that 'more-of-the-same' support methods, such as additional tutorials, or decontextualized programs, such as generic study skills workshops, are generally not in themselves effective for addressing the levels of underpreparedness that arise from deficient schooling.
- 160) To deal successfully with the articulation gap, what is needed in the first instance is alternative introductory curricula that are designed to take account of the realities of students' prior educational experience, to recognize their learning potential, and on that basis to enable the students to build sound academic foundations and learning approaches that will facilitate advanced learning. Alternative provision of this kind, in the form of 'foundation' courses, was introduced by some universities in the early 1980s (soon after black students began to be permitted to enter historically white universities), and quickly evolved into structured, multi-disciplinary foundational curricula that added a semester or a year to selected students' degree programs. The key purpose of such provision is twofold: to facilitate responsible widening of access, by ensuring that students can be placed in introductory courses that meet their learning needs realistically; and to provide talented but disadvantaged students with a solid grounding for successfully completing their studies.
- 161) For some time, foundation programs were preliminary to the regular degree curriculum, which remained largely unaffected. As AD has evolved, however, and new opportunities have arisen, foundational provision has increasingly been integrated with 'mainstream' curricula, to form what are generally known as 'extended' curriculum programs. In these models, the exit standards and learning outcomes of the regular curriculum are unchanged, but foundational and regular elements are intertwined in the early phases of the program, often in creative ways, and flexible arrangements of the senior courses in the curriculum are made possible, to allow for differentials in the pace of progress through to graduation.
- 162) In recent years, foundational or extended programs have been introduced in virtually all higher education institutions, and have benefited from substantial financial support from the state. They have become a central strategy for equity of access in many institutions, and are increasingly being evaluated on the basis of their contribution to equity of outcomes and hence to improving graduate output overall. They have faced strong criticism from the left and the right, and their implementation and achievements have been very uneven across the sector. There have, however, been considerable successes, and many thousands of students – most of whom would not have been admitted on the standard entry criteria – have come through foundational provision to complete their studies.
- 163) For the purposes of this paper, the central point here is that foundational provision has represented a systemic, curriculum-based response to the systemic continuity problems encapsulated in the concept of the articulation gap. There is good evidence that such approaches can be successful in promoting equity while maintaining quality and standards. However, they have remained on the margins in many institutions, despite the evidence in the performance patterns that a high proportion of the student intake are not well served by the traditional curriculum structures and approaches. The main challenge now is to find ways of incorporating such strategies into mainstream provision, to the extent that all students who need them can benefit from them. The following section outlines a further dimension of this challenge.

8.2 Dealing with diversity in mainstream courses

- 164) While foundational provision has proved to be a key means of facilitating equity of access and of outcomes, it is not sufficient in itself to overcome the forms of educational disadvantage that affect so many talented students in South Africa as a result of poor quality schooling and socio-economic

conditions. AD experience shows that aspects of underpreparedness can re-surface at various stages of undergraduate and even postgraduate studies. Also, good foundational provision is too easily undone by mainstream curricula and teaching approaches that are rigid and geared to a traditional elite student body that now represents a small minority of the intake. Wide diversity in educational background necessarily characterizes the student intake in the South African context, and will in fact increase as participation grows towards more effective and representative levels.

165) It follows that dealing successfully with such diversity in mainstream provision, to the extent that graduate output can grow in quantity and quality to meet national needs, is the central educational challenge facing the higher education sector. The responsibility for successfully accommodating diversity must clearly rest primarily with the academic community – with institutional leadership and with individual academic staff in the classroom. There are, however, substantial obstacles in the way of achieving this.

166) In the first instance, there is much resistance in the academic community to investing time and effort in addressing what is regarded as a responsibility of the school sector and a reflection of intractable social problems. There are very understandable elements of this position, particularly in view of the competing demands on academic time and the need to fit into the international scholarly community. However, failure of the academic community to engage productively with local developmental needs will have far-reaching implications for the country. There is consequently a major onus on sector and institutional leadership to increase awareness of developmental priorities in the academic community, so that a productive balance and linkage can be achieved between 'teaching' and 'research'.

167) Second, it is evident that many academic teaching staff are themselves not adequately prepared for dealing effectively with the increasingly diverse student body, and with teaching situations that are unfamiliar to them. The 'craft knowledge' that characterizes most academic teaching can be very effective in certain conditions but lacks a systematic or research-informed knowledge base that can be brought to bear on unfamiliar situations. This is a highly complex matter, involving deep issues of academic identity, and is beyond the scope of this paper. It is important to recognize, however, that raising the level of 'educational expertise' in the higher education sector is equally a responsibility and a challenge for the sector as a whole, if it is to succeed in making the contribution to development that the country is entitled to expect of it.

NOTES

ⁱ For details of the NQF, see SAQA (2005) and the NQF and SAQA websites listed under this reference.

ⁱⁱ The name is derived from the Nguni word 'uMalusi' meaning 'shepherd' or, in the African context, 'guardian of the family assets'.

ⁱⁱⁱ Information obtained from the official Umalusi website:

<http://www.umalusi.org.za/Inveloper.asp?iP=79&iVdate=07/12/2007&iS={22794D0B-68B9-4B63-9EB5-9533572F7A42}>

^{iv} The old Senior Certificate, written for the last time in 2007, was based on the program requirements contained in the policy document 'A Resume of Instructional Programmes in Schools, Report 550' (2001/08).

^v Higher Education South Africa (HESA) was formed in 2005 as the successor to the two statutory representative organisations for universities and technikons (now universities of technology), the South African Universities Vice-Chancellors Association (SAUVCA) and the Committee of Technikon Principals (CTP). The launch of HESA was in part driven by the restructuring of the higher education sector, which resulted in the establishment of new institutional types, but also by the need for a strong, unified body of leadership. HESA represents all 23 public universities and universities of technology in South Africa and is a section 21 company (<http://www.sauvca.org.za/hesa/>).

^{vi} It may be noted, however, that some private sector companies and entities (such as the Chartered Institute of Secretaries) have been long-standing providers of certain mainly vocational post-secondary programs and qualifications.

^{vii} Distinctions between 'academic' and 'vocational' education are contentious in a range of ways, manifested *inter alia* by argument in relation to terminology, including these terms and others such as 'professional', 'career-orientated' and 'career-focused'. Discussion of such issues is beyond the scope of this paper, so the terms are used in a general sense here.

^{viii} 'Madiba' is the clan name of former President Nelson Mandela.

^{ix} Pass-rates in the Independent Examination Board are commonly in the high 90%s. The IEB examinations are written by the majority of private schools: public schools are prohibited from writing them.

^x PIRL is coordinated by the International Association for the Evaluation of Educational Achievement (IEA), United States Department of Education. The report is available at <http://nces.ed.gov/pubs2008/2008017.pdf>.

^{xi} These countries included Argentina, Columbia, Morocco, Slovenia, South Africa, Trinidad and Tobago, and Turkey.

^{xii} Additive bilingualism in essence means that additional languages are gradually added to the home language as media of instruction. In South Africa at present, the eventual aim is that students will have all their schooling in English or Afrikaans in the senior years of schooling, but will arrive at this point through additive bilingualism.

^{xiii} The tables shown here are reproduced or adapted from Scott, Yeld and Hendry (2007) with the permission of the CHE, the copyright owners.

^{xiv} This category contains significant numbers of students who transferred to and completed three-year degrees within the period, so the completion rate for the qualification type may be somewhat inflated.

^{xv} While technikons as institutions have ceased to exist because of the recent institutional mergers, the category of 'technikon-type' programs remains valid because most such programs continue to be offered, in comprehensive institutions and universities of technology.

^{xvi} The majority of these tests are developed by the Alternative Admissions Research Project, University of Cape Town.

^{xvii} Performance on the AARP tests has not been used as a barrier to access – that is, poor performance on the Project assessments has not been used to reject applicants who would otherwise have been accepted. The sample on which this research was conducted was therefore not as truncated as is often the case with selection studies. This makes it possible to compare the subsequent academic performance of students who had done well enough on the Project tests to have been recommended for admission on that basis, with that of students who had done poorly on the Project tests, as the latter group would have gained access to the institution on the basis of their Senior Certificate results.

BIBLIOGRAPHICAL REFERENCES

Badsha, N., Blake, G.T.W. and Brock-Utne, J.G. 1986. Evaluation of the African Matriculation as a Predictor of Performance in the University of Natal Medical School. *South African Journal of Science* 82, 220-221.

Barsby, T., Haeck, W. and Yeld, N. eds. 1994. *Accountability in Testing: the Contribution of Tests to Increased Access to Post Secondary Education*. South African Association for Academic Development - Workshop Publication Series No.2. Cape Town; University of Cape Town.

CHE (SA Council on Higher Education) 2004. *South African Higher Education in the First Decade of Democracy*. Pretoria: Council on Higher Education.

Chisholm, L., Hoadley, U., Kivilu, J., Brookes, H., Prinsloo, C., Kgobe, A., Mosia D., Narsee, H. and Rule, S. 2006. *Educator Workload in South Africa*. Pretoria: Human Sciences Research Council.

Christie, P., Butler, D. and Potterton, M. 2007. *Schools that Work*. Unpublished Report of the Ministerial Committee, 13 October 2007.

Cloete, N. and Bunting, I. 2000. *Higher Education Transformation: Assessing Performance in South Africa*. Pretoria: Centre for Higher Education Transformation.

Cooper, D. and Subotzky, G. 2001. *The Skewed Revolution: Trends in South African Higher Education 1988-1998*. Cape Town: Education Policy Unit, University of the Western Cape.

Crouch, L. 1999. Education Data and the 1996 Census: Some Crucial Apparent Problems and Possible Strategies for Resolution. *EduSource* 24, 10-16.

Crouch, L. and Mabogoane, T. 1997. Aspects of Internal Efficiency Indicators in South African Schools: Analysis of Historical and Current Data. *EduSource* 19, 4-28.

DoE (Department of Education, South Africa) 1997a. Higher Education Act. Pretoria: Government Gazette No. 19842.

DoE (Department of Education, South Africa) 1997b. Education White Paper 3: *A Programme for the Transformation of Higher Education*. Pretoria: Government Gazette No. 18207.

DoE (Department of Education, South Africa) 2001. *National Plan for Higher Education*. Pretoria: Department of Education.

DoE (Department of Education, South Africa) 2002. *Investigation into the Feasibility and Desirability of a Single Examination System at NQF Exit Points 1 – 4*. Unpublished Report of the Ministerial Committee.

DoE (Department of Education, South Africa) 2003a. *Funding of Public Higher Education*. Schedule to the Higher Education Act (Act No. 101 of 1997), November 2003. Pretoria: Ministry of Education.

DoE (Department of Education, South Africa) 2003b. *Investigation into the Current System of Differentiation, namely Higher, Standard and Lower Grade, in the Senior Certificate Examination*. Unpublished Report of the Ministerial Committee: 21 July 2003.

DoE (Department of Education, South Africa) 2007a. The Higher Education Qualifications Framework. Pretoria: Government Gazette No. 30353.

DoE (Department of Education, South Africa) 2007b. Report on Dinaledi Initiative in 2006.

Griesel, H. ed. 2006. Access and entry level benchmarks: the national benchmark tests project. Pretoria: Higher Education South Africa. ISBN: 0-9585086-5-8, 19-27.

Herman, H.D. 1995. School-Leaving Examinations, Selection and Equity in Higher Education in South Africa. *Comparative Education* 31(2), 261-274.

Jipsa 2006. Joint Initiative for Priority Skills Acquisition. <http://www.info.gov.za/asgisa/jipsa.htm>

Kraak, A. and Young, M. (eds) 2001. *Education in Retrospect: Policy and Implementation since 1990*. Pretoria: Human Sciences Research Council.

Kruss, G. 2004. *Chasing credentials and mobility: Private higher education in South Africa*. Cape Town: HSRC Press.

Lolwana, P. 2006. Umalusi: A Historical Perspective. Pretoria: Umalusi.

Lotter, C. 2007. Minimum Admission Requirements: School / Vocational HE Admission Interface. Presentation to Tshwane University of Technology 17 May 2007.

Mabizela, M. 2001. Towards a contextual analysis of structural patterns of private-public higher education in South Africa. Unpublished MEd dissertation, University of the Western Cape, Cape Town.

Moleke, P. 2005. *Inequalities in Higher Education and the Structure of the Labour Market*. Cape Town: HSRC Press.

NCHE (National Commission on Higher Education, South Africa) 1996. *A Framework for Transformation*. Cape Town: CTP.

Pandor, N. 2005. Education key to improving economic growth and promoting social cohesion. Edited extract from address by Minister of Education Naledi Pandor. Cape Times, 7 September 2005, 15.

Reddy, V. 2003. TIMSS 2003 results. Pretoria: Human Sciences Research Council (HSRC). <http://www.hsrc.ac.za/research/programmes/ESSD/timss2003/index.html>.

RSA (Republic of South Africa) 1996. The Constitution of the Republic of South Africa (Act No. 108). Pretoria: Government Printer.

SAQA 2005. The National Qualifications Framework: An Overview <http://www.nqf.org.za/html/docs/english.htm> (accessed 12.11.2007). See also: <http://www.saqqa.org.za> (accessed 12.11.2007)

Scott, I. 2003. Balancing excellence, equity and enterprise in a less-industrialised country: The case of South Africa. In G. Williams (ed) *The Enterprising University: Reform, Excellence and Equity*. Buckingham: SRHE and Open University Press.

Scott, I. 2009. Who is 'getting through' in South Africa? Implications for the reconstruction of the formal curriculum. In Featherman, D., Hall, M. and Krislov, M. (eds) *The Next Twenty Five Years? Affirmative Action and Higher Education in the United States and South Africa*. University of Michigan Press (forthcoming).

Scott, I., Yeld, N. and Hendry, J. 2007. *A case for improving teaching and learning in South African higher education*. Higher Education Monitor No. 6. Pretoria: Council on Higher Education.

Simkins, C., Rule, S. and Bernstein, A. 2007. Doubling for Growth: Addressing the Maths and Science challenge in South Africa's schools. Johannesburg: The Centre for Development and Enterprise.

ADEA – 2008 Biennale on Education in Africa

The interface between further and higher education in South Africa:
Factors affecting the higher education sector's capacity to meet national needs

Umalusi 2007a. Umalusi official website: <http://www.umalusi.org.za>

Umalusi 2007b. Evaluating syllabuses and examinations: An Umalusi technical report comparing the syllabuses and examinations from Ghana, Kenya, South Africa and Zambia. Pretoria: Umalusi

Van der Berg, S. 2004. School education and transformation. <http://transf.audit.co.za/articles/education/pdf>

Vinjevold, P. 1999. Language Issues in South African Classrooms. In Taylor, N. and Vinjevold, P. eds. 1999. *Getting Learning Right*. Report of the President's Education Initiative Research Project. Johannesburg: Joint Education Trust, 205-226.

Yeld, N. and Haeck, W. 1997. Educational Histories and Academic Potential: Can Tests Deliver? *Assessment and Evaluation in Higher Education* 22, 5 -16.3.

Yeld, N. 2001. Equity, Assessment and Language of Learning: Key Issues for Higher Education Selection and Access in South Africa. Unpublished dissertation: University of Cape Town.

Yeld, N., Grobler M. and Sekwane C. 2004. Investigation into the examination of English Second/Additional Language by selected examination authorities in the years 1992, 1999, 2001 and 2003. Commissioned research. Pretoria: Umalusi.

Yeld, N. 2009. Getting In: Admissions Policies. In Featherman, D., Hall, M. and Krislov, M. (eds) *The Next Twenty Five Years? Affirmative Action and Higher Education in the United States and South Africa*. University of Michigan Press (forthcoming).