

CHET 2004b: PROPOSALS FOR FURTHER DISCUSSION

A FURTHER PROPOSAL FOR DISCUSSION

It must be recognised that the South African debate on performance measurement will continue and it is unlikely to be resolved easily. It is also a debate that, at some stage, should move into a broader “political” arena in which the South African government and the higher education sector can engage in discussions on what the content should be of sets of national performance indicators. An acceptable and credible national set of indicators cannot emerge solely from research initiated by an organisation such as CHET. Nevertheless, CHET wishes to advance this debate by presenting an amended set of proposals for further discussion.

In developing these amended proposals, CHET took note of points raised at the March 2004 seminar, and has considered these within the broader international context set by Maurice Kogan and Frans Kaiser. Table 10 summarises what CHET takes to be some of the key issues raised at the seminar, and the responses it has formulated in its post-seminar reconsideration of issues.

TABLE 10: CHET response to March 2004 comments on CHET 2004a

MARCH 2004 SEMINAR COMMENT	CHET RESPONSE
1. GENERAL ISSUES	
1.1 The purpose of performance indicators must be clear	1.1 Performance measurements are integral part of SA's higher education steering mechanisms, as set out in the 1997 White Paper
1.2 The performance indicator system should include the notion of "benchmarks"	1.2 Because, initially, they could be controversial, benchmarks should be developed over time from accepted national and institutional targets

MARCH 2004 SEMINAR COMMENT	CHET RESPONSE
1.3 Different targets should be set for different institutional groups	1.3 Because institution-specific targets will be set, the defining of groups of institutions is unnecessary
1.4 Time frames should be linked to each target used	1.4 Some time frames have been added, and more should be, as the performance indicators are developed further
1.5 The indicator set should include qualitative as well as quantitative indicators	1.5 Because the only data available at present are quantitative, the indicator set, in its initial stages, cannot include qualitative ones
1.6 The indicator set should include targets related to inputs; particularly ones linked to government funding	1.6 Input-related targets and indicators are included in the revised 2004B proposal
1.7 Targets should be weighted to indicate policy priorities	1.7 This is not possible because government did not define a priority order for the implementation of national higher education policies
1.8 Degree credits, which are the "building blocks" of degrees should be used as measures of teaching and research output	1.8 Targets and indicators related to degree credits are included in the revised 2004B proposal
1.9 Indicators relating the labour market should be included in the final indicator set	1.9 This cannot be done at present because labour market data are not available
2. INDICATORS FOR THE SA SYSTEM	
2.1 The size and shape indicators should take account of (a) the contact/distance distinction, and (b) the majors of students	2.1 This has not been done because the resulting indicator set would become too detailed
2.2 The equity indicators used to measure the participation of disadvantaged and female students are too broad	2.2 Data to support more detailed indicators are not available
2.3 The results of cohort progression studies should replace ratios between graduates and enrolments as measures of graduate outputs	2.3 Graduate/enrolment indicators will have to be used until national longitudinal data become available
2.4 The research output indicator should be based on all full-time, and not just permanent academic staff members	2.2 The proposed sets of targets and indicators cannot be changed until national staff data tables include temporary full-time staff

MARCH 2004 SEMINAR COMMENT	CHET RESPONSE
3. INDICATORS FOR SA INSTITUTIONS	
3.1 Targets should be divided into (a) a national average for the higher education system, (b) a specific target for an institution, and (c) a benchmark target selected by the institution	3.1 Provision for national and institutional targets is made in this modified proposal
3.2 Participation indicators should be made academic-programme specific	3.2 Data to support more detailed indicators are not available
3.3 The use of ratios between graduates and enrolments should be replaced by the results of cohort progression studies	3.3 Graduate/enrolment indicators will have to be used because no institution-specific longitudinal data are available
3.4 Degree credits should be used as measures of output	3.4 Targets and indicators related to degree credits are included in the revised proposal
3.5 Staff equity indicators should be expanded to include all full-time academic staff members, and to include new appointments made as measures of change	3.5 The proposed sets of targets and indicators cannot be amended until institutional data tables are changed to include (a) temporary full-time staff, and (b) details of staff changes
3.6 The use of the proportion of staff with doctorates as a measure of staff qualifications should be reconsidered	3.6 Because no alternative has been proposed, this cannot be included in the new proposals
3.7 The composite measure of staff outputs (made up of publication units and research masters and doctoral graduates) should be split into a number of separate indicators	3.7 Only the composite target will be used, because no national targets exist for the separate sets of indicators

In the sections which follow, these comments and CHET's responses are used to develop revised sets of performance indicators for further discussion for the South African higher education system and for South African higher education institutions.

A REVISED SET OF INDICATORS FOR THE SOUTH AFRICAN HIGHER EDUCATION SYSTEM

Table 11 sets out a revised set of systemic indicators, referred to as CHET 2004b. As was stressed earlier, these have the status of proposals which require further discussion and analysis.

The indicators in Table 11 are a modified version of the CHET 2004a proposals for the South African system contained in Table 8 of Chapter 5 of this book. The main



differences between the indicator set in Table 11 and that in Table 8 are these:

- ▶ The set of indicators has been expanded from 10 to 15. The source of the indicators has been standardised to the 2001 National Plan, except in the case of two which rely on 2003 and 2004 directives from the Minister of Education.

TABLE 11: CHET 2004b, proposed indicators and targets for the SA higher education system

ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	TARGETS
SIZE OF THE SYSTEM		
Goal 1: Opportunities for entry into higher education must improve	Gross participation rate in higher education	20% by 2010
Goal 2: Growth of student enrolments must be financially sustainable	Growth in FTE student enrolments compared to real growth in government funding	Annual growth in FTE students = real annual growth in government funding
SHAPE OF THE SYSTEM		
Goal 3: Career-oriented programmes must increase	Growth in technikon compared to university enrolments	Technikon growth to be higher than university growth
Goal 4: Enrolments in science/technology (SET) and business/management (BUS) must grow	FTE enrolments by broad field of study	Enrolment proportions to be 40% SET, 30% BUS
Goal 5: Masters and doctoral enrolments must grow	Head count enrolments by qualification type	10% of head counts to be masters & doctoral students
STUDENT EQUITY		
Goal 6: The participation of disadvantaged students in higher education must increase	Proportion of African students in contact programmes	60% of contact students to be African
Goal 7: The participation of female students in higher education must increase	Proportion of female students in contact plus distance enrolments	50% of contact + distance students to be females
Goal 8: The imbalances in postgraduate enrolments must be redressed	Proportion of Africans in masters and doctoral programmes in universities	% of African masters and doctoral students to = % of African students in total enrolments in universities

ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	TARGETS
Goal 9: The imbalances in student success rates must be redressed	Contact undergraduate success rates by race	Success rates to be equalised
STAFF EQUITY Goal 10: The participation of disadvantaged groups in the professional staff complement of the system must improve	Proportions of permanent academic and professional administrative staff by race	40% of permanent professional staff to be African
Goal 11: The participation of females in the professional staff of the system must improve	Proportions of permanent academic and professional administrative staff by gender	40% of permanent professional staff to be female
TEACHING OUTPUTS Goal 12: Student success rates at both undergraduate and post-graduate levels must improve	FTE degree credits divided by FTE enrolments	Improvements in degree credit % over time
Goal 13: The output of graduates must improve	Graduates divided by head count enrolments	Annual total of graduates to = 20% of head count enrolments
RESEARCH OUTPUTS Goal 14: The output of masters and doctoral graduates must improve	Masters and doctoral graduates divided by head count enrolments	Average of 25%
Goal 15: Research output totals must improve	Output of research masters and doctoral graduates plus research publication units relative to total of permanent academic staff	Ratio of 1.0 weighted research outputs per permanent academic staff member

Notes: (1) The source of most of the indicators and targets listed is the National Plan for Higher Education (2001). The exceptions are those linked to Goal 2 (source = Ministerial directive of April 2004), and Goal 15 (source = Ministerial Statement of December 2003)

(2) The weightings employed in the target for Goal 10 are: masters graduate = 1, publication unit = 1, doctoral graduate = 3. The target is a weighted average of those set for universities and for technikons

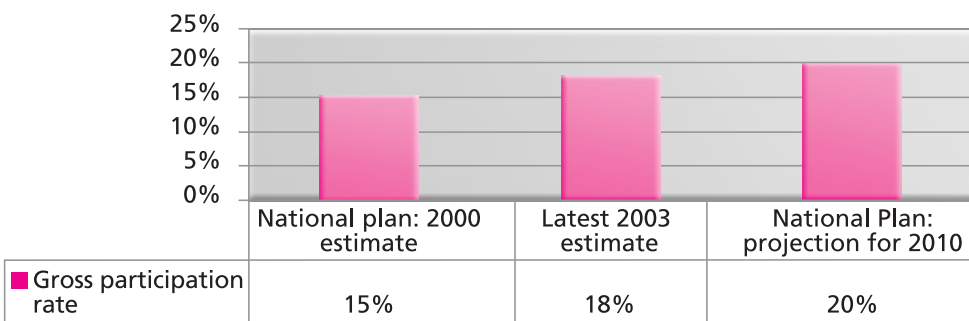


- ▶ The size and shape indicators have been modified and expanded. The key changes are the inclusion of new goals and indicators on the sustainability of student growth (drawn from an April 2004 Ministerial directive) and on the expansion of career-oriented programmes (drawn from the 2001 National Plan).
- ▶ A further student equity indicator is drawn from the 2001 National Plan. This deals with the redress of racial imbalances in masters and doctoral enrolments.
- ▶ Output goals and indicators are divided into those concerned with teaching outputs and those concerned with research outputs. Degree credits are used as one of the measures of teaching outputs. Research masters and doctoral graduation rates are used as indicators for research outputs.

The graphs which follow in this section illustrate how the new indicators would function. Some of the graphs used in Chapter 6 could be applied to the revised indicator set contained in Table 11, and have therefore not been repeated.

The first of the new graphs is Graph 43, which deals with Goal 1 in Table 11. The goal is that opportunities for entry into higher education must improve, and the indicator is the gross participation rate in higher education. The target is that of the 2001 National Plan, which sets 2010 as the year for the achievement of a 20% gross participation rate. The data in the graph show that this participation rate had reached 18% after only four years of the ten-year period.

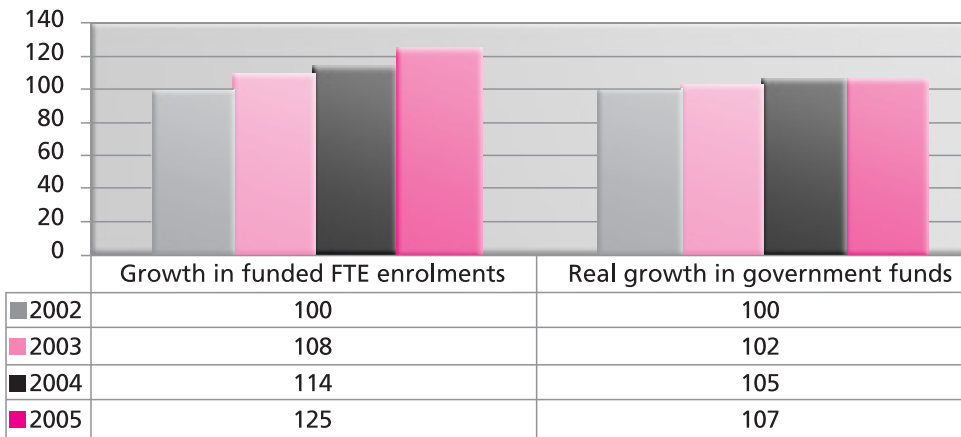
GRAPH 43: Gross participation rates: head count enrolments in public universities and technikons as % of SA citizens in 20–24 age-group (2000–2010)



Source: Presentation on enrolment planning, DoE, July 2004

Graph 44 shows that, for the funding years 2002–2005, student enrolments have grown by a total of 25%. Government funding, in marked contrast, grew by only 7% in real terms. In terms of this indicator, concerns should be raised about the financial sustainability of the student growth that occurred over this period.

GRAPH 44: Comparison of growth in funded FTE student enrolments and real increases in government funding (2002–2005)

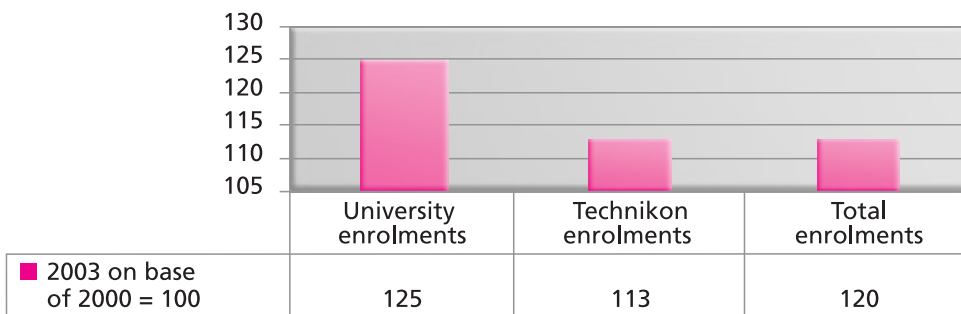


Source: Presentation on enrolment planning, DoE, July 2004

Graph 45 presents data on Goal 3, whose related indicator is that growth in technikon enrolments must exceed university enrolments.

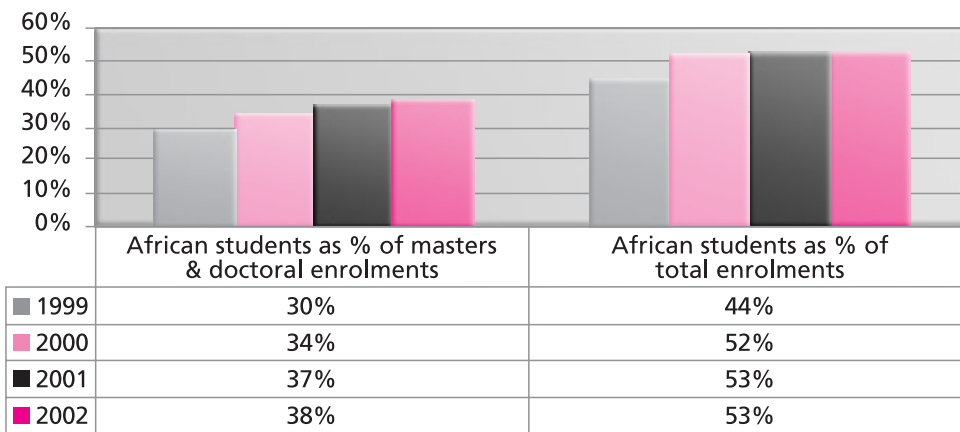
The data in Graph 45 show that university enrolments increased by 25% and technikon enrolments by only 13% in 2003 compared to 2000. This suggests, in terms of this indicator, that the goal of increasing career-oriented programmes has not been satisfied.

GRAPH 45: Comparison of total enrolment growths (2000–2003)



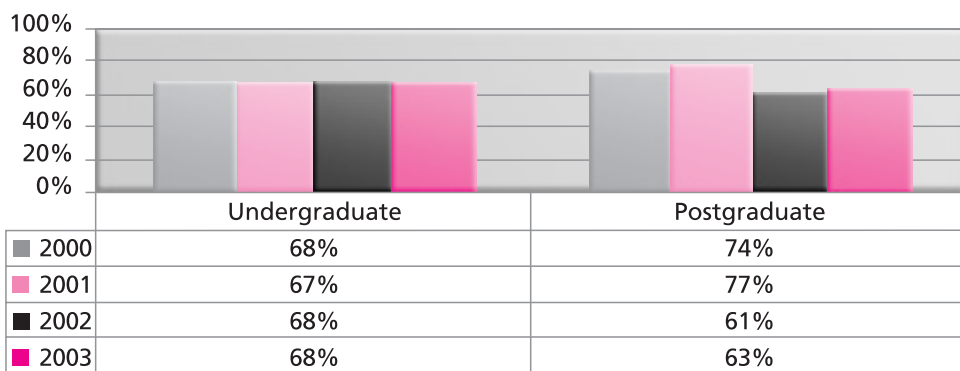
Graph 46 deals with Goal 8 of Table 11, which states that imbalances in postgraduate enrolments must be redressed. The indicator involves comparing the proportions of African students in the masters plus doctoral head count enrolments of universities to their proportion of the total head count enrolments of universities. The target is the equalising of these proportions.

GRAPH 46: African students as proportions of masters and doctoral and of total enrolments in universities (1999–2002)



The data in the graph show that the South African higher education system had not achieved the target of equalising these two proportions by 2002. Graph 47 deals with Goal 12 of Table 11.

GRAPH 47: Average undergraduate and postgraduate success rates (2000–2003)



Source: Presentation on enrolment planning, DoE, July 2004

The target related to Goal 12 is that undergraduate and postgraduate success rates must improve over time. The data in Graph 47 show that undergraduate success rates did not improve, and that postgraduate enrolments in fact fell, during the period 2000–2003.

As indicated in the opening paragraph of this section, the five graphs included in this section only offer illustrations of the new CHET 2004b indicators proposed in Table 11. The remaining indicators are similar to those already used in the CHET 2004a proposal, and can be readily drawn upon.

A REVISED SET OF INDICATORS FOR SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

Table 12 sets out a revised set of performance indicators for higher education institutions in South Africa. This set of institutional indicators, referred to again as CHET 2004b, are presented as proposals which require further discussion and analysis.

The indicators in Table 12 are modified versions of the CHET 2004a proposals for the South African institutions contained in Table 9 of this report. The main differences between the indicator set in Table 12 and that in Table 9 are these:

- ▶ The set of indicators has been expanded from 10 to 12. The source of the indicators has been standardised to the 2001 National Plan, except in the case of three indicators which rely on aspects of the new funding framework, which was approved by the Ministers of Education and Finance in December 2003.
- ▶ The student equity indicators linked to Goals 3 and 4 of Table 12 are modified versions of a Goal 3 of Table 9. These goals use the language of the 2001 National Plan in referring to the need for imbalances in outputs to be redressed.
- ▶ Goal 6 uses a new indicator drawn from the mechanisms of the new funding framework. This indicator is based on the new framework's notions of normative and actual totals of teaching outputs.
- ▶ Goal 12 also uses a new indicator drawn from the mechanisms of the new funding framework. This indicator is based on the new framework's notions of normative and actual totals of research outputs.
- ▶ Goal 10 is a new goal which, for the purposes of generating indicators, links the weighted teaching input units of the new funding framework and FTE totals of academic staff.



The graphs which follow in this subsection illustrate how the proposed new insertions into the table of institutional performance indicators would function. It should be noted that a number of the graphs used previously in Chapter 6 to illustrate the operation of the CHET 2004a indicators could be used again, provided that provision is made for the inclusion of institution-specific targets in these graphs. Examples will therefore be given only of some of revised indicators included in Table 12.

The four universities selected for these examples are those used in earlier sections of the report. The universities, once again, are not identified.

TABLE 12: CHET 2004b, proposed indicators and targets for the SA higher education institutions

ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	NATIONAL TARGET	INSTITUTION-SPECIFIC TARGET
STUDENT EQUITY			
Goal 1: The participation of disadvantaged students in on-campus programmes must increase	Head count enrolments by instruction mode and by race group	40% of contact to be African	To be determined during planning processes
Goal 2: The participation of female students in all programmes must increase	Head count enrolments by gender	50% of contact + distance students to be females	To be determined during planning processes
Goal 3: Imbalances in post-graduate enrolments must be redressed	Proportion of Africans in masters and doctoral programmes	% of African masters and doctoral students to = % of African students in total enrolments	To be determined during planning processes
Goal 4: Imbalances in student success rates must be redressed	Contact undergraduate success rates by race	Success rates to be equalised	To be determined during planning processes
STUDENT OUTPUTS			
Goal 5: Undergraduate success rates must improve	Undergraduate FTE degree credits as % of FTE enrolments in contact programmes	Average of 80% for universities and 75% for technikons	To be determined during planning processes

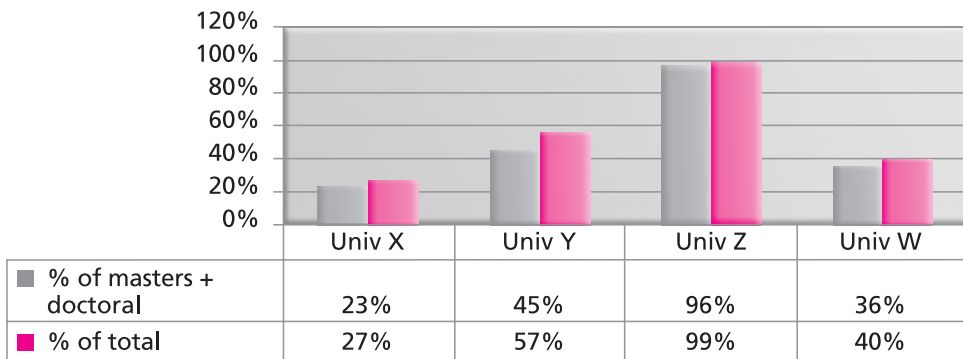
ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	NATIONAL TARGET	INSTITUTION SPECIFIC TARGET
Goal 6: High proportions of enrolled students must graduate each year	Funding formula's actual total of teaching outputs divided by normative output total	Average of 100%	To be determined during planning processes
STAFF EQUITY Goal 7: The participation of disadvantaged staff groups in the professional staff complement of the system must improve	Proportions of permanent academic and professional administrative staff by race	40% of permanent professional staff be African	To be determined during planning processes
Goal 8: The participation of females in the professional staff complement of the system must improve	Proportions of permanent academic and professional administrative staff by gender	40% of permanent professional staff to be female	To be determined during planning processes
STAFF AND STAFF OUTPUTS Goal 9: Academic staff must be well qualified	% of permanent academic staff members with doctorates	Average for universities to be average of 40% with doctorates.	To be determined during planning processes
Goal 10: Educational processes must be supported by the provision of adequate numbers of teaching staff	Ratios of teaching input units (or weighted FTE enrolments) per FTE academic staff member.		To be determined during planning processes
Goal 11: High proportions of masters & doctoral enrolments must graduate each year	Masters plus doctoral graduates as % of M + D enrolments	Average of 25%	To be determined during planning processes
Goal 12: Academic staff must be active in research	Funding formula's actual total of research outputs divided by normative output total	Average of 100%	To be determined during planning processes

Note: The source of most of the indicators and targets listed is the National Plan for Higher Education (2001). The exceptions are those linked to Goals 6, 10 and 12, whose source is the new government funding framework which was approved in December 2003.



The first of the new graphs is Graph 48, below, which deals with Goal 3 in Table 12, and which, for the sake of simplicity, uses 2003 data only. This goal requires institutions to redress racial imbalances in their postgraduate enrolments. The indicator is the proportion of African students in masters plus doctoral enrolments compared to their share of the total head count enrolment of an institution. The national target and institutional targets are that these proportions should be equalised. Graph 49, which follows, presents data for 2003 on the differences between the success rates of African undergraduates in contact programmes and each institution's average success rates for contact undergraduate programmes. Since the goal is the redressing of racial imbalances in success rates (Goal 4 of Table 12), the national target is that the African undergraduate success rate should equal the average for undergraduate programmes. If performance indicators of this kind are to be adopted in South Africa, then specific intermediary targets would have to be set for institutions such as University X and University W.

GRAPH 48: African students as a percentage of masters and doctoral students and as a percentage of total head count enrolment (2003 only)

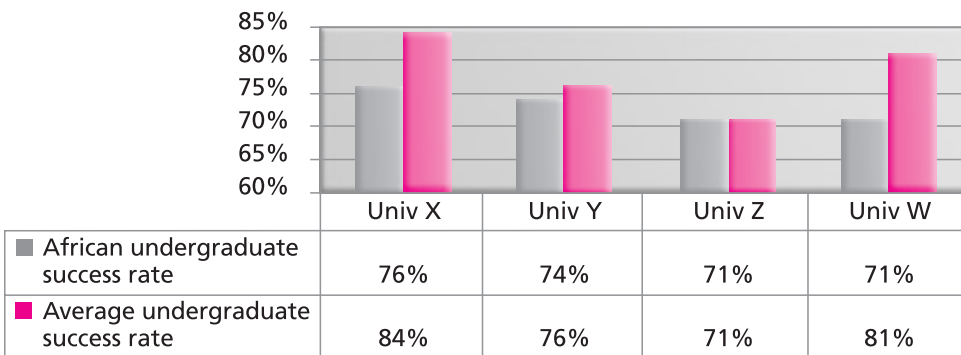


Note: institution-specific targets are: masters + doctoral proportion must = total proportion

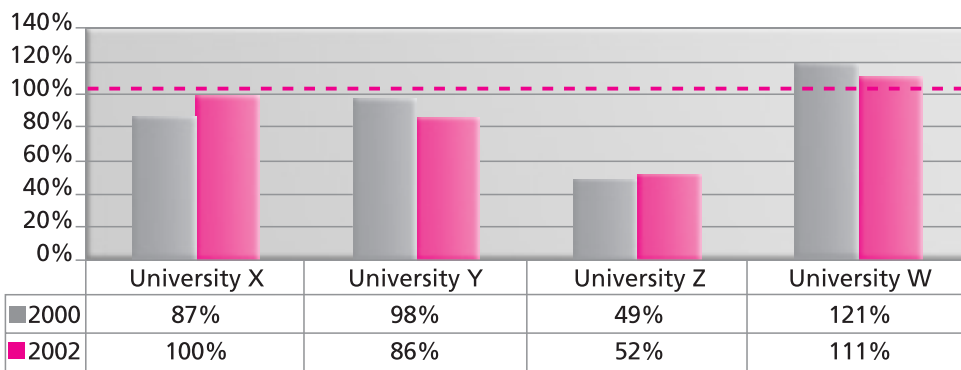
Goal 6 of Table 12 refers to the need for high proportions of enrolled students to graduate each year. Graph 50 sets out an indicator for this goal, using the provisions of the government funding framework which was introduced in South Africa for the first time in the 2004. The graph compares each institution's actual weighted teaching outputs (taken to be its non-research graduates) for 2000 and 2002 with its normative totals for these years. This normative total is based on provisions of the 2001 National Plan, and indicates what total of non-research graduates each institution ought to have

produced, given its pattern and totals of student enrolments for 2000 and 2002. The national target would obviously be that the ratio of actual to normative outputs should equal 100%. Given that only X and W met this national target in 2002, institution-specific targets would have to be determined if a performance indicator of this kind were to be introduced.

GRAPH 49: Comparison of average success rates and of African student success rates in undergraduate contact programmes (2003 only)



GRAPH 50: Actual teaching output totals compared to the normative totals of the new funding framework (2000–2002)

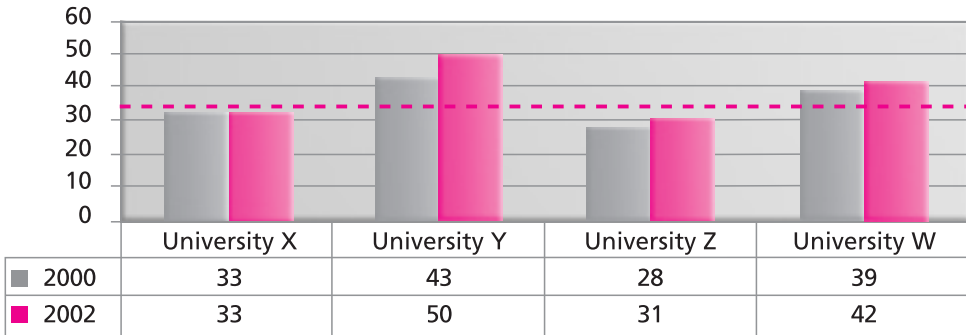


Note: - - - = national target of 100%

Goal 10 in Table 12 states that educational processes must be supported by adequate numbers of teaching staff members. The indicator selected is based on the teaching input units of the new funding framework and FTE academic staff totals. Ratios are then calculated which are in effect totals of students requiring access to teaching staff.



GRAPH 51: Ratios of teaching input units (weighted FTE students) to FTE academic staff members (2000 & 2002)

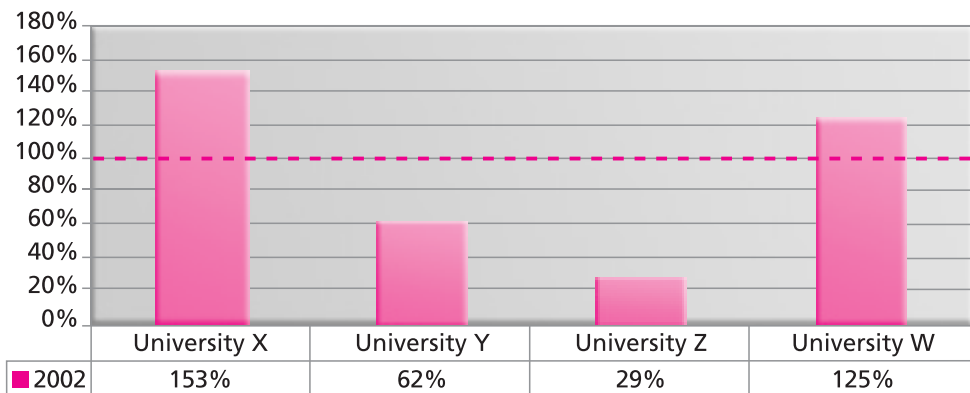


Note: - - - = national target of 35 teaching units per FTE academic staff member

The national target set is 35 teaching input units (which is equivalent to between 18 to 20 FTE enrolled students) per FTE academic staff member.

Goal 12 of Table 12 refers to the need for academic staff members to be active in research. Graph 52 uses one of the provisions of the government funding framework as an indicator for this goal. The graph compares each institution’s actual weighted total of research outputs (taken to be research graduates and research publications) for 2002 with its normative total for this year. This normative total indicates what total of research outputs each institution ought to have produced in a given year, given its academic staff total for that year. The national target would obviously be that the ratio of actual to normative research outputs should equal 100%.

GRAPH 52: Actual research output totals compared to the normative totals of the new funding framework (2002 only)



Note: - - - = national target of 100%

