



CHET

CENTRE FOR HIGHER EDUCATION TRANSFORMATION

Mandates and targets:

Mechanisms for differentiation in the South African university system

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INTRODUCTION

Over the period 1997 to 2014, the SA government published five policy reports which included discussions of differentiation:

- 1997 White Paper on higher education transformation;
- 2001 National Plan for higher education;
- 2012 Green Paper on post-school education and training;
- 2013 White Paper on post-school education and training;
- 2014 Policy Framework on differentiation

This presentation begins with the 2013 White Paper's account of differentiation. It stresses that the report does not discuss the issue of implementation, and points to ways in which this could be done.

The presentation is an extract from a CHET project which covers all categories of university, but which has, because of time constraints, been able to focus only on the category of traditional universities.

2013 WHITE PAPER



The 2013 White Paper says this about differentiation:

- The distinction between the categories of (a) traditional universities, (b) comprehensive universities, and (c) universities of technology will be retained.
- There will be continuum of institutions in the university sector; ranging from largely undergraduate institutions to research-intensive universities.
- Each university will have a clear mandate within the system.
- All universities in SA will offer high-quality undergraduate education.
- All universities will engage in some level and type of research, but will not have similar research goals.

- Policy and funding will recognise the need for developmental funding in poorly resourced institutions.
- Policy and funding will ensure that high quality of teaching and/or research will be maintained and improved.

The 2013 White Paper does not offer a detailed account of differentiation across and within the 3 categories of universities. It says only that the Department of Higher Education & Training will develop sufficient national consensus on (a) a differentiation programme, and (b) the adoption of agreed institutional missions.

The 2014 Policy Framework was the DHET's first attempt at achieving the required consensus. This is however an inconclusive document, which fails to offer the details required for the implementation of a national university differentiation programme.

ACADEMIC CORES AND MANDATES



CHET's argument is that the 2014 Policy Framework could have worked if it had accepted and spelled out:

- the centrality of the notion of the academic core of a university;
- the need for empirical evaluations of university performance;
- the links between these empirical evaluations and the 2013 White Paper's account of pacts and mandates.

CHET develops this view in the following way:

1. The inputs of the academic core of a university are the qualifications and fields of study which it offers, its student enrolments, and its academic staffing. The outputs are its graduates, and its research products.

2. Because the 2013 White Paper takes the three categories to be basic, a separate academic core has to be determined for each.
- 3 These separate academic cores contain the mandates which specify, for each university within a category, what its academic programmes, students enrolments, academic staffing profile, graduate output and research outputs are required to be.
- 4 The academic core applicable to each university category can be summed up in a set of mandate goals which can be linked to quantitative targets.
- 5 Institutional data available in HEMIS tables for students, academic staff and graduates, and in reports on research publications, can be extracted and compared to the mandate targets. The data used in the evaluations should be rolling three year averages.

6. The comparison of actual data to targets permits evaluations to be made of the performance of universities relative to the specific mandates linked to its category. The distance between the mandate targets and the averages for an individual university can be represented in radar graphs.
7. These radar graphs can be used to rank universities within each of the three categories. Differentiation of the university system could begin with these initial rankings, which will place universities into clear clusters.
8. An individual university's radar graph can also be used as a diagnostic tool which points to this university's strengths and weaknesses. Planners can drill down into any of the targets to identify detailed aspects of strengths and/or weaknesses.

CHET's proposed differentiation mechanism relies on the principle that any measurement of institutional performance must be relative to input and output goals and to targets which an institution is expected to achieve.

The mechanism involves (a) setting mandate goals and targets for each of the three categories traditional university, comprehensive university and university of technology, (b) linking these to HEMIS data averages for 2011 to 2013, and (c) then using these links to measure institutional performance.

Because of space pressures, the balance of this presentation will deal with the mandates and targets of traditional universities. It can point only briefly to the need for separate mandates and targets to be set for the other two categories of university.

MANDATES AND TARGETS



The mandate of traditional university in SA is this:

- A substantial proportion of all enrolments must be in SET.
- The majority of student enrolments must be undergraduates, but with a high proportion to be in masters and doctoral programmes.
- Its permanent academic staff must be well-qualified and a majority must be in senior ranks.
- It must have high success rates in undergraduate courses.
- It must have high throughput rates of all graduates, and high outputs of doctoral graduates and research publications.

Table 1 which follows expands this mandate into a set of 8 goals and 15 quantitative targets.

TABLE 1: CORE GOALS AND TARGETS FOR TRADITIONAL UNIVERSITIES

Goal 1: Strong enrolments in science and technology	(1) At least 40% of total head count enrolments to be in SET
Goal 2: Strong masters & doctoral enrolments	(2) At least 15% of total head count enrolments (in all fields) to be in masters + doctoral enrolments
	(3) At least 3% of total enrolments to be in doctoral programmes
Goal 3: Experienced and well-qualified academic staff	(4) At least 60% of permanent academic staff to hold ranks of professor or associate professor or senior lecturer
	(5) At least 50% of permanent academic staff to have doctoral degrees
Goal 4: Favourable student to academic staff ratios	(6) In SET, ratio to be at most 20 FTE students per FTE academic
	(7) In education + humanities + social science ratio to be at most 25 FTE students per FTE academic
Goal 5: High undergraduate pass rates	(8) Average pass rate of 80% in SET undergraduate courses
	(9) Average pass rate of 80% in education + humanities + social science undergraduate courses
Goal 6: High outputs of total graduates and of graduates in SET fields	(10) Total graduates in given year to be at least 25% of total enrolments in that year
	(11) Ratio of SET graduates to SET enrolments to = 1.0
Goal 7 High outputs of masters and doctoral graduates	(12) Total masters graduates in given year to be at least 25% of masters head count enrolments in that year
	(13) Total doctoral graduates in given year to be at least 15% of doctoral head count enrolments in that year
Goal 8: High levels of new knowledge production by academic staff	(14) Ratio of research publications to permanent academic staff to be at least 1.0
	(15) Ratio of doctoral graduates to permanent academic staff to be at least 0.15

Table 2 sets out examples of the target data which could be used to assess the performance of traditional universities in SA. These data are three-year averages for the years 2011, 2012 and 2013, and are derived from the student and staff HEMIS tables.

Because there are a total of 11 traditional universities, the examples are limited to a selection of 6 universities, with different levels of performance.

Table 3 links the data averages in Table 2 to the targets in that table. This is done by converting these data averages to a 4-point scale by (a) dividing the 3-year average score by the target score, and (b) allowing a maximum ratio of 4.0. The scores indicate the following:

- 4 = has met numerical mandate target;
- 3 and above = close to numerical mandate target;
- below 3 = performance well below mandate target

Table 2: Data averages for six traditional universities for 2011-2013

	Targets	UCT	UFS	UL	NWU	RU	UWC
1: % of total head count enrolments in SET	40%	43%	28%	49%	20%	28%	37%
2: Masters + doctoral enrolments as % of total heads	12%	21%	9%	8%	7%	18%	11%
3: Doctoral enrolments as % of total heads	3%	5.2%	1.7%	0.9%	1.8%	5.8%	3.1%
4: % of professors + associate professor + senior lecturers	60%	69%	49%	46%	58%	63%	60%
5: % of permanent academic staff with doctorates	50%	63%	42%	18%	49%	54%	51%
6: SET ratio of FTE students to FTE academics	20	18	17	20	24	17	23
7: Humanities + social science ratio of FTE students to FTE academics	25	19	32	29	35	17	30
8: Average pass rate in SET undergraduate courses	80%	86%	79%	83%	88%	86%	84%
9: Average pass rate in education + humanities + social science undergraduate courses	80%	86%	72%	84%	85%	85%	78%
10: Total graduates as % of total head count enrolments	25%	26%	19%	19%	26%	30%	20%
11: Ratio of % SET graduates to % SET enrolments	1.0	0.89	1.19	0.84	0.97	0.92	1.05
12: Masters graduates as % of masters head count enrolments	25%	28%	24%	16%	25%	27%	23%
13: Doctoral graduates as % of doctoral head count enrolments	15%	14%	18%	8%	14%	15%	14%
14: Ratio of research publications to permanent academic staff	1.0	1.32	0.68	0.21	0.74	1.22	0.67
15: Ratio of doctoral graduates to permanent academic staff	0.15	0.18	0.11	0.02	0.12	0.19	0.16

Table 3: Relating three-year averages to targets with maximum = 4.0

	Average for 11 trad univs	UCT	UFS	UL	NWU	RU	UWC
1: % of total head count enrolments in SET	3.4	4.0	2.8	4.0	2.0	2.8	3.7
2: Masters + doctoral enrolments as % of total heads	3.3	4.0	2.9	2.8	2.2	4.0	3.6
3: Doctoral enrolments as % of total heads	3.4	4.0	2.3	1.2	2.4	4.0	4.0
4: % of professors + associate professor + senior lecturers	3.6	4.0	3.3	3.1	3.9	4.0	4.0
5: % of permanent academic staff with doctorates	3.5	4.0	3.4	1.4	4.0	4.0	4.0
6: SET ratio of FTE students to FTE academics	3.6	4.0	4.0	4.0	4.0	3.4	4.0
7: Humanities +social science ratio of FTE students to FTE academics	3.5	4.0	4.0	3.1	3.4	2.8	4.0
8: Average pass rate in SET undergraduate courses	4.0	4.0	3.9	4.0	4.0	4.0	4.0
9: Average pass rate in other undergraduate courses	3.9	4.0	3.6	4.0	4.0	4.0	3.9
10: Total graduates as % of total head count enrolments	3.6	4.0	3.0	3.0	4.0	4.0	3.2
11: Ratio of % SET graduates to % SET enrolments	3.6	3.6	4.0	3.4	3.9	3.7	4.0
12: Masters graduates as % of masters head count enrolments	3.5	4.0	3.9	2.5	3.9	4.0	3.6
13: Doctoral graduates as % of doctoral head count enrolments	3.5	3.7	4.0	2.1	3.7	4.0	3.9
14: Ratio of research publications to permanent academic staff	3.3	4.0	2.7	0.9	3.0	4.0	2.7
15 Ratio of doctoral graduates to permanent academic staff	3.4	4.0	2.8	0.5	3.1	4.0	4.0

PERFORMANCE EVALUATIONS: RADAR GRAPHS

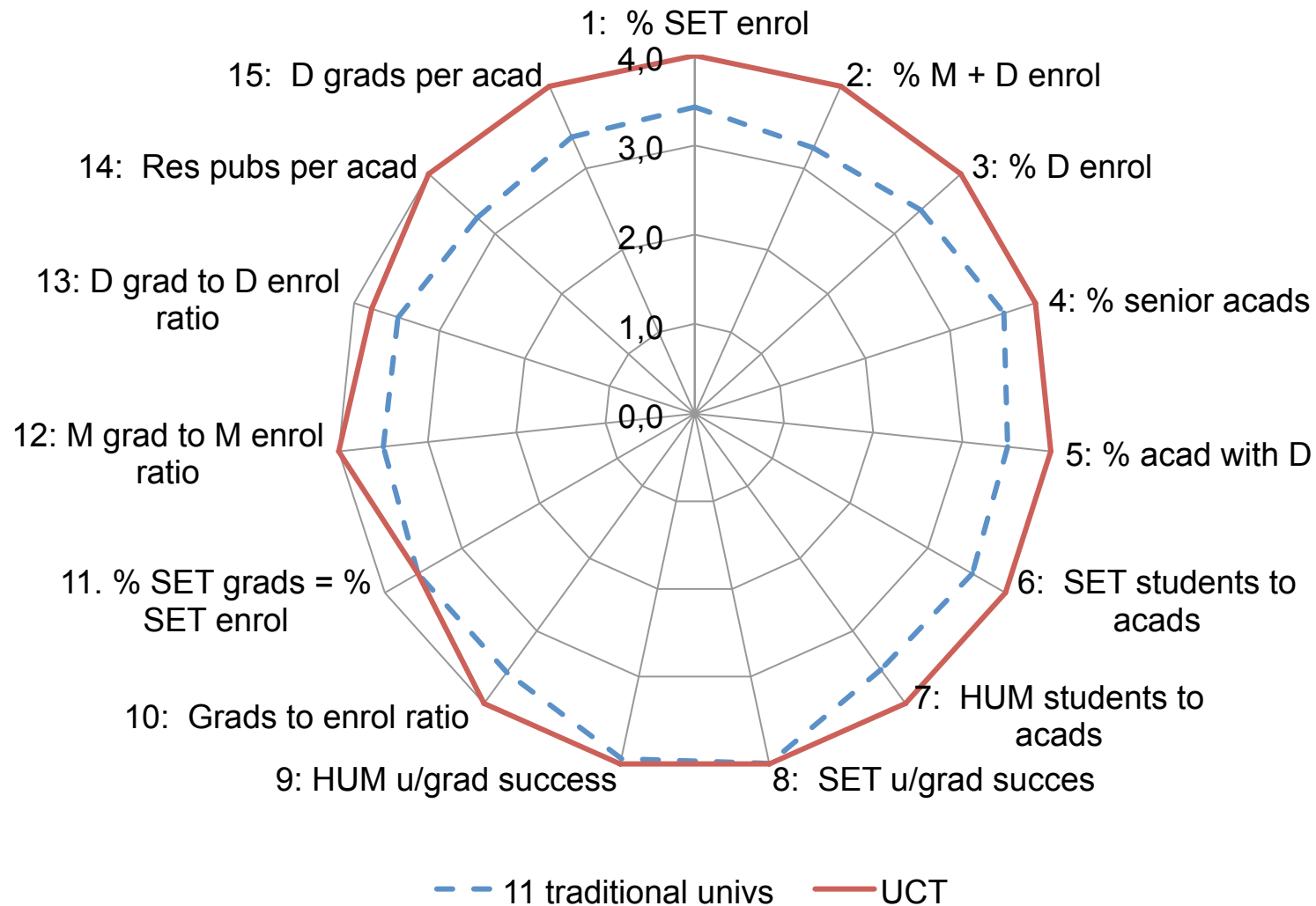


The radar graphs which follow reflect the extent to which an individual university complies with the performance targets linked to the mandates for traditional universities. The radar graphs selected are for the six selected traditional universities in Table 3.

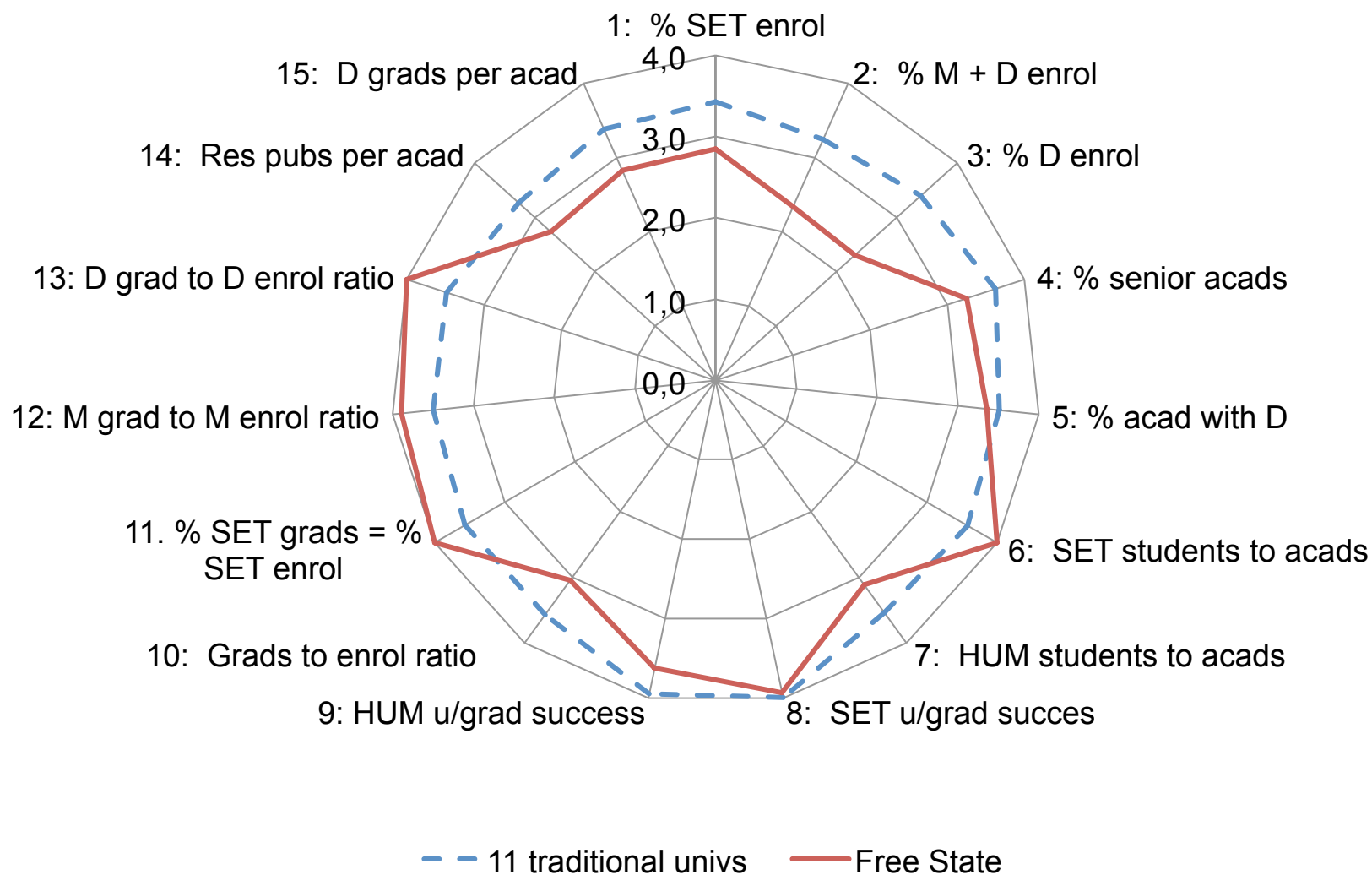
Preliminary points to note about the graphs are these:

- the outer 4.0 grid line represents the target related to each datum point;
- the dotted line in the graph represents the average for the eleven traditional universities in relation to each input and output target;
- the solid line represents the individual university's average score for the years 2011-2013.

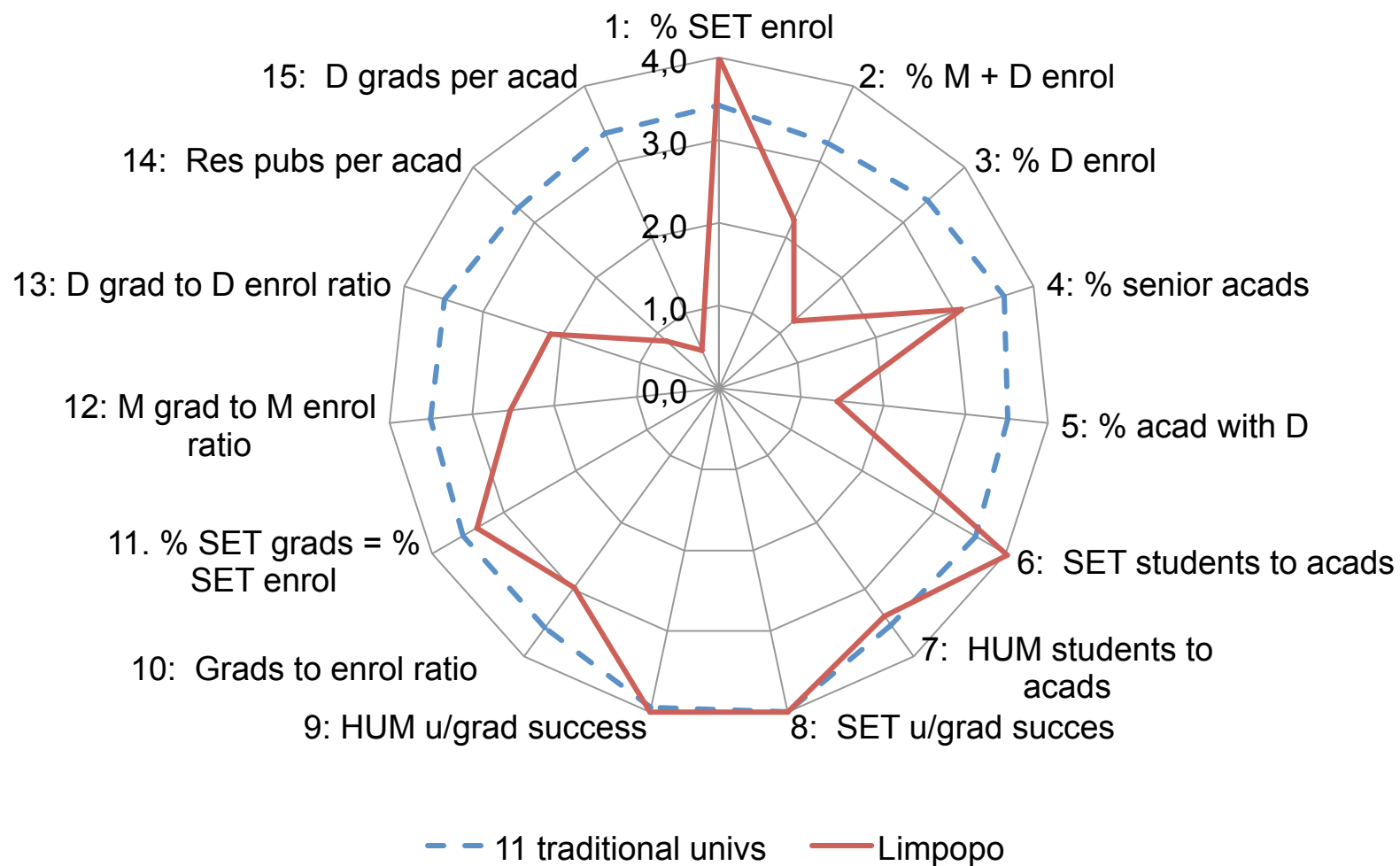
University of Cape Town: averages for 2011, 2012 & 2013



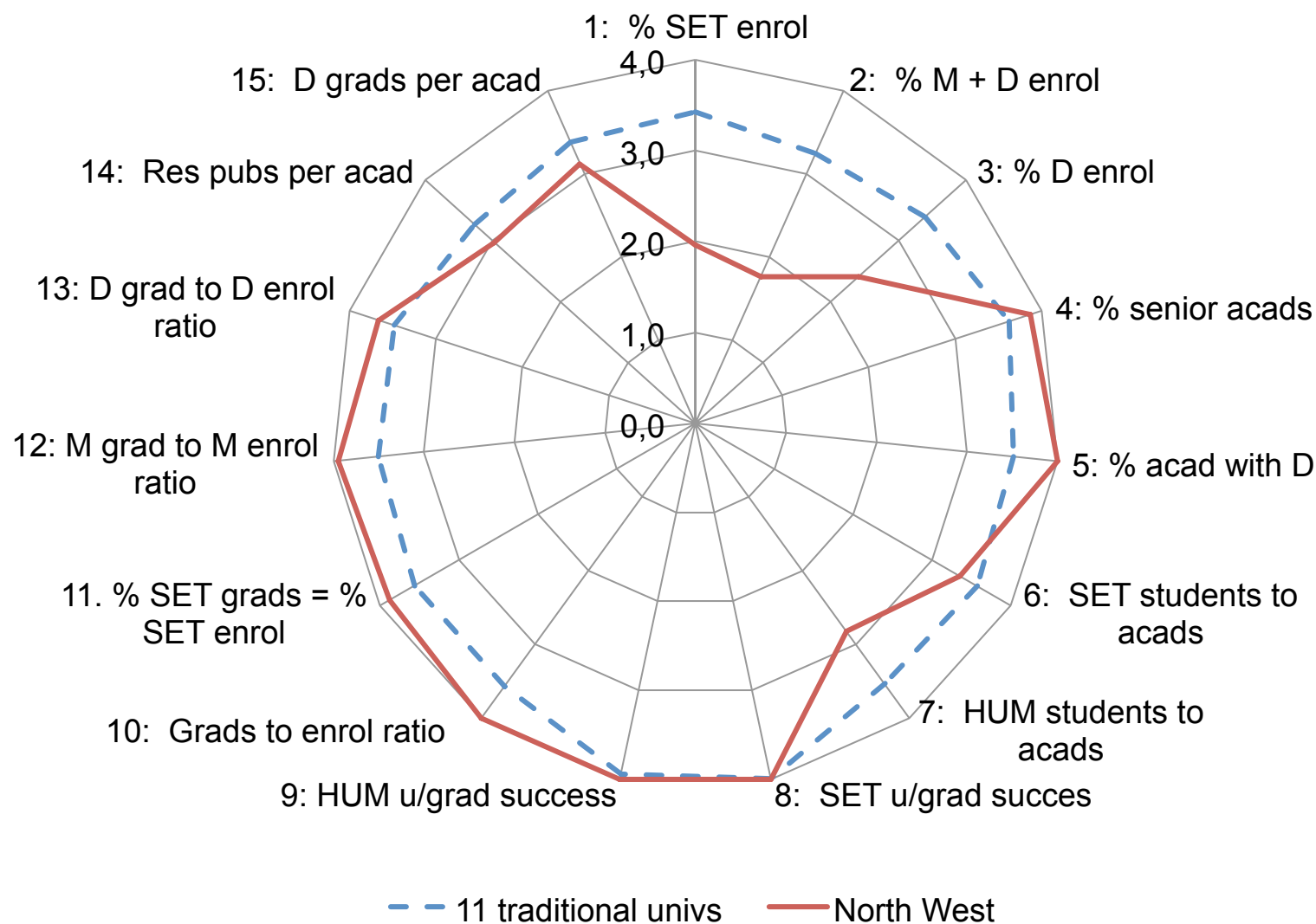
University of the Free State: averages for 2011, 2012 & 2013



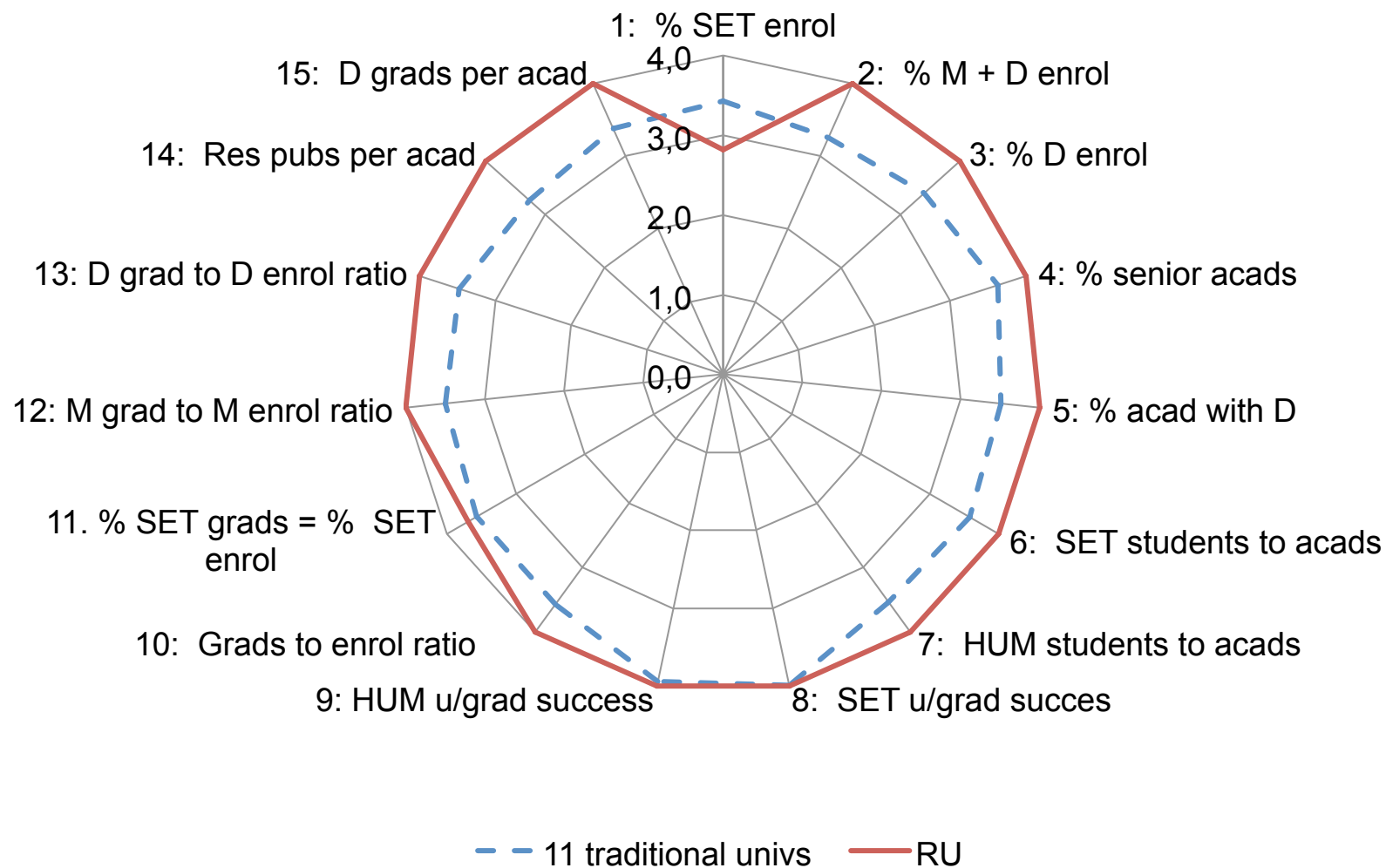
University of Limpopo: averages for 2011, 2012 & 2013



North West University: averages for 2011, 2012 & 2013



Rhodes University: averages for 2011, 2012 & 2013



University of Western Cape: averages for 2011, 2012 & 2013

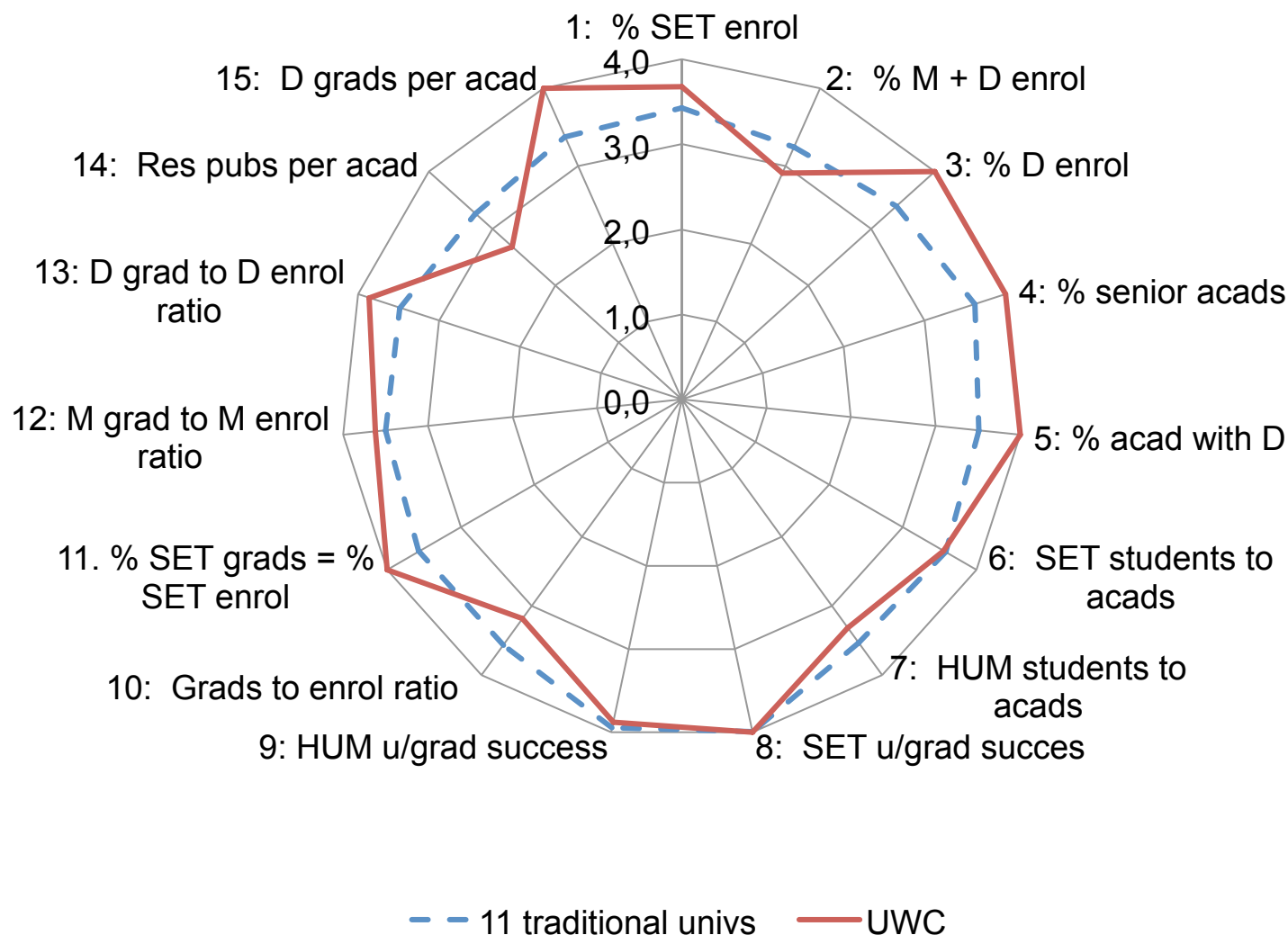


Table 4 below offers a simple left to right ranking of the 11 traditional universities. The ranking is based on the calculations of the kind used in Table 3 and a count of number of targets met (score of 4), and of scores close to target (3.0 & above).

Table 4: Ranking of traditional universities on basis of performance											
	UCT	Stell	RU	Wits	UP	UWC	UKZN	NWU	UFH	UFS	UL
4.0 scores: inputs + outputs	13	12	13	11	6	6	4	4	3	3	4
3.0 scores: inputs + outputs	2	3	1	4	8	7	7	7	7	7	4
Scores below 3.0: inputs + outputs	0	0	1	0	1	2	4	4	5	5	7
TOTAL	15	15	15	15	15	15	15	15	15	15	15
Weightings: 4.0 score x 2, 3.0 score x 1, other scores x 0											
Weighted score	28	27	27	26	20	19	15	15	13	13	12

CONCLUDING COMMENTS

As was said at the start of this presentation, CHET's proposed differentiation mechanism involves setting distinct sets of mandate goals and targets for the three categories of traditional university, comprehensive university, and university of technology. Its analyses show that the use of a single set of goals and targets will tend to distort what are clear policy mandates for each category. The final table which compares the performance ratings for two institutions on separate sets of goals illustrates this point.

	On traditional university goals			On proposed comprehensive goals		On proposed university of technology goals
	NMMU	TUT		NMMU		TUT
4.0 scores: inputs + outputs	2	1		7		7
3.0 scores: inputs + outputs	8	6		5		6
Scores below 3.0: inputs + outputs	5	8		3		2
TOTAL	15	15		15		15
Weightings: 4.0 score x 2, 3.0 score x 1, other scores x 0						
Weighted score	12	8		19		20