

How does the University of KwaZulu-Natal rate?

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**Abstract**

This very short simple paper tries to put a calibrated handle on the ranking of South African universities in terms of their research capabilities. It pays particular attention to the University of KwaZulu-Natal, and the claims that the University of KwaZulu-Natal makes regarding its own research standing. The paper concludes with some general and broad comments on university education in KwaZulu-Natal within the South African context.

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# 1 Introduction

The University of KwaZulu-Natal (UKZN) claims to be "The Premier University of African Scholarship". In the "Institutional Profile and Brief Description of UKZN"[1], as published on the university web site, UKZN also states that the national Department of Science and Technology, has classified UKZN as one of 5 research-led and research-intensive Universities in South Africa.". On the same web page, the university also states that, "Over the past 7 years, UKZN has been consistently rated the 2nd or 3rd most research-productive university (as measured by the Department of Higher Education and Trainings SAPSE Units) of the 23 universities."

# 2 The Raw Scores

Table 1 lists those South African universities with with more than 50 rated researchers as rated by the National Research Foundation (NRF) as of July 2012[3]. The list is ordered using the "Total" column. This column reflects the summation of all the research categories that the NRF rates with respect to academic staff at universities. These are represented by columns "A" through "F", and represent "Leading international researcher" "Internationally acclaimed researcher", "Established researcher", "NRF Prestigious Award", "Promising young researcher" and "Late entrant into research" respectively.

According to Table 1, the University of Cape Town (UCT) is by far the most productive research-led and research-intensive university in South Africa. This view is based on the fact that UCT has more than twice the numer of A-rated researchers as any other South African university. Even if we combined the two next-best universities, the combination would still not better than UCT. In addition, using this criterion, UCT is six times (6x) better than UKZN. If a South African university wanted to use "Premier" in it's branding[4], UCT could justifiably do so.

	<b>Institution</b>	<b>Total</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
1	University of Cape Town	372	29	119	158	5	59	2
2	University of Pretoria	312	9	69	187	4	41	2
3	Stellenbosch University	312	13	88	147	5	56	3
4	University of the Witwatersrand	221	15	66	106	1	31	2
5	University of KwaZulu-Natal	207	5	42	130	1	27	2
6	North-West University	132	1	16	94	1	19	1
7	University of the Free State	109	0	10	89	0	9	1
8	University of South Africa	108	1	9	85	0	11	2
9	University of Johannesburg	98	5	21	57	0	14	1
10	University of the Western Cape	87	1	19	60	0	6	1
11	Rhodes University	61	1	18	33	0	8	1
12	Nelson Mandela Metropolitan University	59	2	4	45	0	4	4

Table 1: **South African Universities NRF Researcher Standings**

### 3 The Normalised Scores

While the figures in Table 1 are revealing, they cannot be used as such to compare these universities with respect to their research performance, as they represent raw scores or values. To use them to make a meaningful comparison, they need to be normalised. I have attempted to do this by simply dividing the figures for each university by the respective numbers of students enrolled at the corresponding university. By doing this, the comparison is now made in terms of a measure representing the number or rated researchers each university produces for every 1000 enrolled students.

The enrolment figures I have used, also come from the NRF[3]. The result of this normalisation is shown in Table 2. Using these figures, UCT is still the top university in terms of its NRF rated staff complement. In this revised table, Rhodes University has now moved from second last on the table, to third from the top. UKZN now finds itself in sixth position, last in the top half of the table.

	<b>Institution</b>	<b>Rated (RR) Researchers</b>	<b>Enrolment</b>	<b>RR per 1000 Enrolment</b>
1	University of Cape Town	372	24674	15.08
2	Stellenbosch University	312	27372	11.40
3	Rhodes University	61	7222	8.45
4	University of the Witwatersrand	221	29745	7.43
5	University of Pretoria	312	57115	5.46
6	University of KwaZulu-Natal	207	41244	5.02
7	University of the Western Cape	87	18009	4.83
8	University of the Free State	109	29902	3.65
9	Nelson Mandela M U	59	26123	2.26
10	North-West University	132	51797	2.55
11	University of Johannesburg	98	48373	2.03
12	University of South Africa	108	293238	0.37

Table 2: **South African Universities NRF Researcher Standings**

## 4 Discussion

For the NRF to publish the figures relating to the numbers of rated researchers at the various South African universities in the manner that it does, is acceptable, as they are simply reporting the figures. It would be useful if the NRF could also present these figures suitably normalised, so that realistic comparisons could be made with respect to per capita research performance. Perhaps these figures do exist in the public domain. Despite several searches, I have not yet found those data.

Using raw student enrolment figures, is probably not the best basis for normalisation. Instead, the normalised measure that universities use to enumerate students for their own purposes i.e., Full Time Equivalent (FTE) students, would have produced a better comparison. I would like to have produced a third table, similar to Table 2, but normalised using the academic staff complements of the respective universities. This information was not readily available for 2012. I believe that if this could be done, it

would produce the most accurate measure of the research productivity of the universities.

## 5 Mathematics

UCT has five A-rated mathematics researchers. As there are only six A-rated mathematics researchers in South Africa, it means that UCT has more than five times as many A-rated mathematics researchers, as the rest of the South African Universities considered as a single entity. This is an extraordinary statistic, and one that I certainly cannot explain. It is not in keeping with the bigger picture for A-rated mathematics researchers. Overall, UCT has twice as many A-rated researchers, as the next best South African university.

In recent years, the Pietermaritzburg campus of UKZN lost three excellent mathematicians. One left as a result of a his involvement in a dispute at UKZN regarding "Academic Freedom". The second had completed his superannuation and in effect reached the end of his tenure at UKZN. However, he would probably have stayed on, if an offer for him to do so, had been made. As he had recently been made a "Fellow of UKZN" for his services to the university, it seemed strange that he was not offered an extension of his superannuation. The third mathematician had, and still has, an A-rating. He is "the only A-rated mathematician' outside of UCT". I believe the loss of these mathematicians was very unfortunate.

## 6 KwaZulu-Natal and South Africa

KwaZulu-Natal (KZN) and Gauteng have similar population sizes, and account for approximately 44% of South Africa's population.[5] Gauteng has three universities, KZN has one. KZN's population is more than double that of the Western Province (WP). The Western Province has three universities. Taking this further, Gauteng, KZN and WP account for 1.4, 7.7 and 10.6 % of the land area of SA respectively. Correspondingly the population densities are 576, 105 and 37 people per square kilometre. Quite clearly Gauteng deserves the universities it has. The disparity between

KZN and the WP is different. Either the WP has too many universities, or KZN has too few. Either way, the difference cannot be justified.

Prior to the merger of the Universities of Durban-Westville and Natal, the Pietermaritzburg Campus of the University of Natal was mostly functioning as an independent campus. It could arguably have been left out of the merger and established as the second university in the province, primarily serving the hinterland of KZN. A satellite campus of this new university could have been established in Newcastle to serve Northern KwaZulu-Natal. The merger would then have been between University of Durban-Westville and the Durban campuses of the University of Natal.

## 7 Conclusion

I should state that my research was limited to what I was able to find on the Internet. Having retired, I could not bring myself to the point of trying to correspond with individual universities in order to obtain the figures for academic staff complements. I have tried this sort of thing before, and my experience is that figures, they are not readily released by institutions.

I wrote a little program to extract the data that I required from the NRF spread sheet that I downloaded. The program has not been independently audited, and so while the results may look acceptable, it would have been better if the process had been verified. I would like to suggest that we could do better when comparing the research outputs of universities in South Africa. We need to back up our bragging rights and our criticisms with some hard facts and specific contexts for those facts.

Finally, given the state of education in this country, and the urgent and on-going need to address this problem, it should be mandatory for universities to also publish their "conversion rate", whenever they brag about their research output. By "conversion rate" I mean, the rate at which students enrolled at a university, graduated from that university, within the expected time-frame associated with the student's chosen diploma or degree.

Regarding universities in general, KwaZulu-Natal quite clearly has received

the short end of the stick.

## References

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- [2] **National Research Foundation:** Rated Researchers, [http://www.nrf.ac.za/files/file/Evaluation%20and%20rating%20of%20individuals\\_2012/Rated%20researchers\\_5%20June%202012\\_Excel%202010.xlsx](http://www.nrf.ac.za/files/file/Evaluation%20and%20rating%20of%20individuals_2012/Rated%20researchers_5%20June%202012_Excel%202010.xlsx)
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- [4] **UKZN:** YouTube Video - Repositioning UKZN as "The Premier University of African Scholarship", <http://www.youtube.com/watch?v=Hw2dh1k6FzY>
- [5] **Population:** SouthAfrica.info, <http://www.southafrica.info/about/people/population.htm#provinces>