

# Rating Major Disciplines in Australian Universities: Perceptions and Reality

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## Executive Summary

While choice of university by undergraduates may be based heavily on the standing of an institution as a whole, for others, such as Ph.D. students and researchers, standing in the discipline is often more important. In previous work we rated Australian universities as single entities using as the criterion, 'international academic standing'. In this paper we extend our work to the discipline level.

The seven disciplines or groupings of disciplines that we evaluate are:

- Arts & Humanities
- Business & Economics
- Education
- Engineering
- Law
- Medicine
- Science

We evaluate academic standing using both qualitative and quantitative measures. We obtained qualitative rankings and ratings by surveying leading scholars in the fields, both within Australia and overseas. The quantitative data relate to research performance, research training, and teaching.

In the surveys, we asked the scholars to both *rate* the international academic standing of their discipline in each Australian university where it is taught, and to *rank* the top five universities. We asked respondents in each discipline to place each university in one of five categories:

- Comparable to top 100 in world
- Comparable to top 101-200 in world
- Comparable to top 201-500 in world
- Not comparable to top 500 in world
- Don't know well enough to rate

We also asked respondents to state whether they considered their top five ranked universities to be comparable to the top 25 or top 50 in the world.

The total number of responses was 543, which we convert into four indexes (ratings and rankings by both domestic and overseas scholars), giving the top university in each index a score of 100. We also combine the separate indexes into a single series using equal weights for the four components.

We then compare the survey results with direct measures of performance: publications and citations from Thomson Scientific, academy membership, NHMRC funding and ARC project success, doctoral completions, SSRN downloads, student entrance scores, student evaluations, and staff-student ratios. (Not all data are available for all disciplines or for all of the thirty-nine universities we study.) For each performance measure we convert the data to index form, with the best performing institution given a score of 100. We obtain an overall measure of performance by averaging the scores. (We do not calculate a measure of overall performance for Law owing to the lack of suitable data on publications.)

We find that the survey results and the overall performance measures are broadly consistent, with correlation coefficients of 0.86 for Education, 0.93 for Medicine and 0.95-0.96 for the other disciplines. In table A, we compare the list of the top 12 universities in each discipline (top 10 in Medicine) based on the survey results with the lists based on the overall performance measures.

In table B, we combine the international ratings obtained from the surveys with the overall performance measures to list the disciplines considered to be in the top 50 and top 100 in the world. On the basis of the survey results, we find 23 cases of discipline groups being in the top 100 in the world; we have added to the 23 the only two cases in which the survey results were inconsistent with the performance measures. These two additions were for Education and Medicine at the University of Queensland, a university which typically ranks lower in the surveys than in the performance measures. The standout performers using both data sets are Medicine at the University of Melbourne and Science at the Australian National University.

Whereas there is a high correlation between the various measures of research performance and the survey results, these measures have low correlation with student evaluations and staff-student ratios.

Our study shows that there is high correlation between the different research measures and between peer opinion and research measures. If correlations are high then the simplest and cheapest methods for measuring research performance are preferred. There are lessons in this for governments trying to develop research measures for the purpose of allocating funds.

**Table A: Top Rankings in Surveys and Performance Measures**

Humanities		Business & Economics		Education		Law
Survey	Performance	Survey	Performance	Survey	Performance	Survey
1 ANU	1 ANU	1 Melbourne	1 Melbourne	1 Melbourne	1 Queensland	1 Melbourne
2 Melbourne	2 Melbourne	2 UNSW	2 UNSW	2 Monash	2 Melbourne	2 ANU
3 Sydney	3 Sydney	3 Sydney	3 ANU	3 Sydney	3 Monash	2 Sydney
4 Monash	4 Monash	4 ANU	4 Monash	4 Queensland	4 Curtin	4 UNSW
5 Queensland	5 Queensland	5 Monash	5 Queensland	5 QUT	5 Sydney	5 Monash
6 LaTrobe	6 UNSW	6 Queensland	6 Sydney	6 Deakin	6 QUT	6 Queensland
6 UNSW	7 La Trobe	7 UWA	7 UWA	7 Curtin	7 La Trobe	7 UWA
8 UWA	8 UWA	8 Macquarie	8 UTS	7 UWA	8 Deakin	8 Adelaide
9 Adelaide	9 Macquarie	9 Adelaide	9 QUT	9 Macquarie	9 UWS	9 Macquarie
9 Macquarie	10 Flinders	9 UTS	10 Griffith	10 Griffith	10 Griffith	10 Griffith
11 Griffith	11 Adelaide	11 QUT	11 Macquarie	10 UNSW	11 ECU	10 QUT
12 Flinders	11 UNE	12 La Trobe	12 Curtin	10 USA	12 Adelaide	12 Tasmania
12 Tasmania				10 UTS	12 USA	12 Bond
				10 Wollongong	12 Murdoch	

Engineering		Medicine		Science	
Survey	Performance	Survey	Performance	Survey	Performance
1 Melbourne	1 UNSW	1 Melbourne	1 Melbourne	1 ANU	1 ANU
2 UNSW	2 Sydney	2 Sydney	2 Sydney	2 Melbourne	2 Sydney
3 Sydney	3 Melbourne	3 Monash	3 Queensland	3 Sydney	3 Melbourne
4 Monash	4 Queensland	4 UNSW	4 Monash	4 Queensland	4 Queensland
5 Queensland	5 Monash	5 Adelaide	5 UNSW	5 UNSW	5 UNSW
6 ANU	6 ANU	6 Queensland	6 UWA	6 Monash	6 UWA
7 UWA	7 Newcastle	7 ANU	7 Adelaide	7 Adelaide	7 Adelaide
8 Newcastle	8 UWA	8 Flinders	8 ANU	8 UWA	8 Monash
9 Adelaide	9 Wollongong	8 UWA	9 Flinders	9 Macquarie	9 Tasmania
10 RMIT	10 Adelaide	10 Newcastle	10 Newcastle	10 JCU	10 JCU
11 QUT	10 QUT			11 La Trobe	11 Macquarie
12 Wollongong	12 Curtin			11 Tasmania	12 Murdoch
	12 Griffith				
	12 UTS				

**Table B: World Class Performers**

World Rank	Humanities	Business	Economics	Education	Engineering	Law	Medicine	Science
Top 50	ANU Melbourne	Melbourne			Melbourne Sydney** UNSW	ANU Melbourne Sydney	Melbourne	ANU
Top 51-100	Sydney	UNSW	ANU Melbourne	Melbourne Queensland*	ANU Monash Queensland		Monash Sydney Queensland*	Melbourne Sydney
# responses	81	75	50	61	74	56	60	86

University included if at least 40 per cent of respondents classify in range. Exceptions are those marked with one asterisk, which have been added on the basis of performance data, and that marked with two asterisks, which has moved up a category on the basis of performance data. Universities are listed alphabetically in each range.