

ANU: 'university with a difference'

Executive Summary

Executive Summary to The Report of the Committee established
by the Council of The Australian National University
to evaluate the quality of ANU performance.

SEPTEMBER 2004

Executive Summary

Universities are a public trust which has to be earned anew by each generation...their social legitimacy depends not on what they have achieved, but on what they are becoming.²

Distinctive characteristics of ANU

ANU was established in 1946 by legislation of the Australian Parliament. Along with other national institutions in Australia's Federation, ANU was envisaged to be of enduring significance in the life of the nation – to support the development of national unity and identity, to improve Australia's understanding of itself and its neighbours, and to contribute to economic development and social cohesion.

ANU is distinctive among Australian universities in its research intensity, the relatively small scale of its undergraduate enrolments, its national capital location, its special mission for contributing to nation building and advancing Australia's place in the world, and the block funding it receives directly from the Australian Government for the Institute of Advanced Studies (IAS).

ANU has evolved into a research and teaching university, with national hubs and international networks of scholarly activity and outreach services. It has played no small part in the transformation of Australian higher education over the past decades. Our review set out to evaluate how well ANU is doing, and what it might best do, or do differently, to fulfil its mission in the challenging years ahead.

Findings

The Review Committee had access to extensive data sets, including results of surveys undertaken specifically for the review. On the basis of all the available evidence and our own observations, we confirm the standing of ANU within the elite "Top 100" research-intensive universities of the world, even among the top 50 or so. In respect of research, our findings are similar to those of the Committee that reviewed the IAS in 1995: *research "is of a high quality overall in all the research schools and centres. Some groups are at the forefront of international research and among the leading groups in their field".* We make the additional point that the Faculties, too, are performing at high levels of quality.

For the purposes of our review, around 90% of ANU academic staff submitted their best five research works over the period 1995-2004 for assessment by some 285 external, mostly international peers chosen by the University (the names of assessors are listed at Appendix 4 of *ANU Capabilities and Performance Statement*). The assessors rated 67.8% of the University's research output submitted for assessment as being in the top 25% of research internationally and 29.2% of it in the top 5% internationally. For the

² Harold. T. Shapiro, (2001), "Professional Education and the Soul of the American Research University", Ann Arbor, Michigan.

IAS, the respective figures were 73.4% and 35.0%; for the Faculties, 61.4% and 20.9%; for the University Centres, 60.8% and 24.4%. More than 40% of assessors rated ANU as being in the top 25 universities in their field in the world. The available bibliometric data reinforce the peer assessments. ANU is distinguished by the high volume of its high quality research output, especially in the natural sciences.

As a community of scholars, researchers and teachers, ANU offers an exceptional environment for undergraduate and postgraduate education. At their best, programs within the university present an ideal of the teaching-research nexus, with students benefiting from exposure to the scholarship of enquiry and discovery.

ANU has a considerable capacity for quality research training. The University makes important contributions nationally and internationally through its outreach services. Nevertheless, these aspects of ANU activities need further development.

The University faces critical challenges originating from changes in its external operating environment, including new types and levels of demand for higher education, increasing competition for resources, and changing public policy settings. It is vital that the University address its various challenges effectively, and in creative ways, in order to sustain the quality of its performance in an ever more demanding environment. The Australian Government, which established ANU, also has a particular responsibility in enabling the University to achieve its mission and maintain and strengthen its international status.

Recommendations

Our recommendations accordingly are framed with a view to encouraging continuing discussion within the ANU community, and dialogue between the University and external communities, about the best ways to realise the University's full potential to meet national needs and to engage in global scholarship.

We make recommendations in relation to the following main issues:

- re-affirming the mission of the "national" university;
- indicating the major directions of the University's future development;
- continuing the reform of the University's internal structures towards greater internal synergies;
- the need for greater utilisation of distinctive capabilities of ANU;
- the critical importance of the block grant in conjunction with significantly greater income diversification;
- the further "engagement" of the University with external communities, both national and international.

Our recommendations are detailed below.

Reaffirming the mission of ANU

In the uncertain times ahead, the University needs to be clear about its central role and purpose, the values it stands for and the performance standards expected of it. Recognition should be given to the substantial public benefits that flow from the collaborative international involvement of Australian researchers at the forefront of knowledge, to an extent that would not be possible for Australia to generate by itself.

1. We recommend that the ANU Council reaffirms the special mission of the University in contributing to national, regional and local development through research, education and service of the best international standards. [see pages 1-3]

Reaffirming the ANU vision

To be a serious player on the international stage in the first part of the Twenty-First Century requires altogether more exacting capabilities than were required in the last half of the Twentieth Century. In the emerging global knowledge society, research-led universities need to be flexibly organised and internationally networked, and internally integrated by a culture of curiosity. They must also be adequately resourced to attract the best staff and the best students, and to access the highest quality infrastructure.

2. We recommend that the ANU Council renews its commitment to the far-reaching vision for the University that includes:

- *extending and deepening its engagement with external communities in Australia and internationally, especially in the Asia-Pacific region;*
- *expanding the use of its capacity for excellent research training;*
- *developing distinctive research-led undergraduate education, professional development and graduate education; and*
- *thereby, enriching the University academically and helping to build the resources it will require to sustain excellence. [see pages 43-46; 52-56].*

Engaging with external communities

Modern universities have responsibilities to make constructive civic contributions. ANU does so contribute, but it is not as visibly connected as it needs to be, within Australia and elsewhere, to make the impact that it can make and to sustain the support that it requires.

3. We recommend that the University gives attention to strengthening its ties nationally and internationally by:

- *building further strategic alliances through research projects and inter-institutional partnerships, within Australia and beyond;*
- *increasing its networks of contacts in business and commerce which can lead on to research support and collaborations;*
- *forging tighter links with other national institutions;*
- *ensuring that all Faculties, Schools and Centres have the benefit of external advisory groups or boards, with special knowledge of their particular areas of expertise;*

- *deliberately reaching outside Canberra and the ACT to create associations (such as NICTA) which advance the mission of the University, and increase awareness of its role and achievements;*
- *making a major commitment to systematic development and fund raising based in the long-term commitment of "friend raising": ensuring that students as alumni remain associated with their university, finding benefactors who share the ANU vision, and harnessing the whole institution (starting with the Council) in building the endowment. [see pages 69-78].*

Research-led undergraduate education

ANU is structurally advantaged to offer quality research-led education that cannot be replicated by any other Australian university. We envisage it offering distinctive programs like the PhB and direct-entry Masters, and combinations of programs, like double-degrees, that would attract the best students from across Australia, and the Asia-Pacific rim. We see ANU students having an intensive campus experience, in a residential setting at least in the first year, and having the opportunity to study with an ANU international partner at some stage in their learning.

4. We recommend that ANU aspires to be an academically elite (residential) university, of up to 6000 undergraduate students, each student ideally having an intensive education integrated with research; and embedded in work experience, through an in-service course or internship, and which develops graduates for global citizenship through international experience. [see pages 52-55;71-72].

Increasing the utilisation of research training capacity

The role of the ANU in research training has been growing since the 1995 Review of the Institute of Advanced Studies. Nonetheless, across the ANU there is, on average, only one higher degree research student per research-active academic staff member – the same average ratio for all Australian universities. In some of the strongest research areas student numbers are inexplicably low, representing a serious opportunity cost for the nation. By the standards of the world's leading research universities, it would not be unreasonable to expect the ANU to have some three times as many research students than it currently enrolls.

Current government policy limits growth in domestic research enrolments and lacks incentives enabling the best students to attend the best universities.

5. Accordingly, we recommend that the Australian Government removes its restrictions on the number of domestic students who can undertake higher degree research studies at ANU. [see pages 43-45].

Greater use could also be made of the capacity of ANU to offer postgraduate research and coursework programs to international students, thereby advancing Australia's networks for building long-term relationships, especially in the Asia-Pacific region.

6. We also recommend that ANU develops a more strategic approach to the establishment and award of significantly more postgraduate scholarships -

especially for research training, but also for postgraduate coursework students.
[see page 68].

Research-informed professional development

Educational and professional programs building social and economic benefits for the Asia-Pacific could be a central part of Australia's evolving engagement with that wider region. The programs would also, as an area of professional studies within ANU, offer considerable growth in a diversified funding base.

7. We recommend that ANU purposefully constructs alliances with governments, and public and private agencies to enhance professional studies. [see pages 55-56].

Benchmarking educational quality

ANU should continue to set its sights to the peaks of international excellence in research and research-led education.

8. To confirm its success in translating research performance into excellent research-led education, we recommend that ANU develops reciprocal arrangements with other research-intensive universities internationally, explicitly to benchmark the quality of its education and to substantially expand the overseas experience of study. [see page 52].

Expanding ANU's national engagement and public policy role

The University has a major opportunity to exploit its national capital environment, its links with government, and the range of its academic disciplines to engage vigorously and constructively in public policy analysis and projection.

9. We recommend specifically that ANU expand its collaborative research and policy development with the agencies of government, and engage in "action research" which draws from the practice of public administration and policy development in government, and make this a distinctive feature of the ANU national mission. [see pages 59-60; 72-74].

By doing so, ANU can mark out a characteristically individual role. The National Information and Communications Technology Centre of Australia (NICTA) is, even by US standards, a great example of community collaboration with ANU functioning as the national hub. We see a potential for much stronger collaboration between ANU and the National Library of Australia, CSIRO and other national institutions.

10. Accordingly, we recommend that ANU take positive steps to strengthen its links with other national institutions. [see pages 74-75].

Leading in Asia and connecting with Europe and the Americas

ANU also has the singular capacity of becoming a pre-eminent 'Asia University', functioning as a catalyst for research, a generator of professional leaders, and a window into Asia for the rest of the scholarly world.

11. We recommend that ANU develops an active agenda of engagement with the Asia-Pacific region, involving:

- *strategic alliances with the Region's finest universities, and research institutes and academies;*
- *effective fellowship schemes to draw in the most talented research and post-doctoral candidates;*
- *long-term co-operative and multilingual research and educational activities;*
- *an ongoing dialogue of close association between researchers in the Region with ANU as the conference hub of new knowledge exposition; and*
- *a partnership with government and NGO strategies in Asia as a key component of the national outreach - as Australia comes to occupy its special role in the Region, as its own neighbourhood of interests and identity .[see pages 75-78].*

Publishing in leading journals

While several of the external assessors of ANU research, in the physical sciences, philosophy and other areas commented that the research was world class and published in the best journals, several other external assessors commented on the lower than expected proportion of papers, in certain other fields, that were published in leading international journals. Meeting the challenge of publication in internationally esteemed journals may well help address another concern raised by some assessors, that research conducted for practical national policy purposes was not always conceptually or methodologically ground-breaking.

12. Accordingly, we recommend that ANU continues to raise its sights in terms of the quality of journals for its research publications, and aims even higher in meeting expectations of the most creative research approaches, based on the flexibility provided by the block grant. [see pages 40-41].

Establishing financial sustainability

While the University enjoys a sound budgetary position, is strategically well managed and has achieved revenue growth in recent years, it has little discretionary income and limited reserves to meet the costs of a backlog of building replacements and rehabilitation requirements, and the renewal of expensive research infrastructure that is so important in attracting and retaining the world's top scholarly talent.

The University must implement closely defined strategies for diversifying its sources of revenue growth in ways that are consistent with its mission and values.

13. We recommend that ANU expand its revenues through greater levels of national public policy service, and especially by growing its provision of

professional and graduate education, to meet national and international needs.
[see pages 67-68; 72-73].

We note that these are contested areas and do not guarantee consistently high returns. We believe that ANU must retain the capacity to undertake long-term and large-scale research that may have the potential to be policy relevant or commercially applicable but is not circumscribed by limited notions of relevance and is not motivated by a desire for profit.

The distinctive strength of the ANU derives significantly from the stability and flexibility afforded by the block grant for the Institute. Its gradual erosion is a major cause of concern.

14. Accordingly, we recommend that the Australian Government sustain and progressively increase the block grant for the Institute of Advanced Studies over 2005- 2010. [see pages 64-67].

Internal integration

While ANU has clear strengths in specific research disciplines, the level of interdisciplinary collaboration across the University is less than optimal. We observed a number of dynamic cross-disciplinary projects, notably in the Humanities, but we were disappointed to see many small areas operating separately, especially in the Social Sciences. The recent formation of National Institutes is helping to coordinate the University's planning and its projection to external communities. In fields such as health, economics, environment, and Asia-Pacific studies there is scope for better collaboration of effort to take full advantage of the University's special academic attributes. Closer collaboration may be facilitated by co-location or even integration of some academic units.

Most importantly, a more porous notion of the Institute would be beneficial to both staff and students: it would give all younger staff the opportunity for gaining teaching experience and assist them in their careers; it would give older research staff the opportunity to be refreshed through engagement with the challenges that young minds present; and it would give students more frequent and direct exposure to some of the world's leading researchers whose knowledge is ahead of anything they could read or hear from others. Above all, the inter-twining of the Institute within the fabric of one University is an essential ingredient of productivity improvement, not least through the greater opportunity for staff of the Faculties to concentrate on their research.

15. Accordingly, we strongly recommend that ANU continues to improve internal cooperation and integration for cross-disciplinary collaboration, as well to reduce duplication of effort and achieve efficiency gains. In particular, the University should take advantage of opportunities as they arise to form larger internal units, regarding the Institute of Advanced Studies as a porous component of ANU through which academic staff from all parts of the University may move from time to time. Special consideration ought to be given to the formation of a virtual research school for the Humanities. [see pages 41-42; 69-71].

Matters for further consideration

The following matters relate to aspects of our terms of reference that we had insufficient time to consider. Rather than make specific recommendations about them we suggest they are matters the University itself should further explore.

further analysis of research-led education

There are significant areas of research strength at ANU that are not reflected in the undergraduate curriculum. We would encourage ANU to analyse the areas of research strength identified in this review and consider areas for the further development of undergraduate and graduate education programs, including such areas as Asia-Pacific Studies, Environmental Studies, and particular fields of research that have an impact on public policy, such as criminology [see pages 52-55].

the international student experience

The Committee became aware of discussions among Australian universities, and within ANU, regarding the quality of "the experience" of international students in their learning, and in their interactions on campus and in the wider community. As we did not have sufficient time to investigate the issues, we suggest the University consider undertaking a specific survey of international student perspectives [see pages 50-51].

staff development

Along with many Universities, ANU faces challenges associated with developing and retaining exceptional staff functioning in increasingly cross-disciplinary, international environments. Aging staff profiles, gender imbalance, the need to provide career opportunities for new staff, multi-skilling and leadership development are all pertinent issues that need to be addressed.

We encourage ANU to review career development opportunities for staff and consider:

- aligning career development opportunities for staff with future directions of ANU research and teaching, including commercialization;
- encouraging cooperation in approaches to staff development to reduce duplication and share resources effectively;
- creating an environment which enhances opportunities for staff to collaborate on learning activities;
- effectively manage staff development expenditure to ensure resources are focused on areas of greatest need; and
- reviewing and evaluating the quality and outcomes of staff development provided by ANU [see pages xvii; 13].

ANU at a Glance

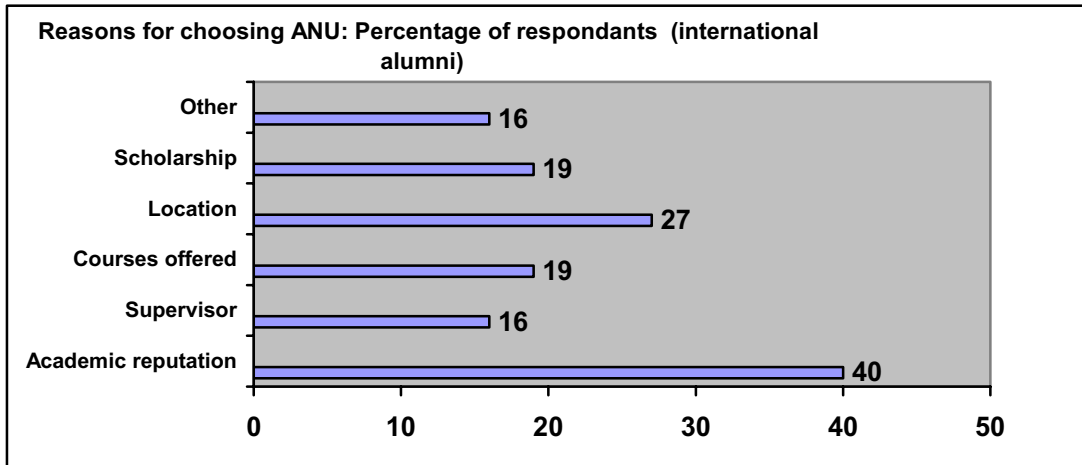
STUDENTS

- ANU's student body has grown from 8,205 people to 10,698 in four years
- 29% of students are in postgraduate programs, and 37% of these postgraduates are international students.
- Overall, 23% of ANU students are from overseas.
- International students primarily cite "academic reputation" as the reason they chose ANU.
- A high proportion of young undergraduates is a hallmark of elite universities – ANU attracts 50% of undergraduates directly from high school.
- 40% of ANU undergraduates are pursuing combined degrees.
- Local demand for undergraduate education from school leavers is projected to decline.

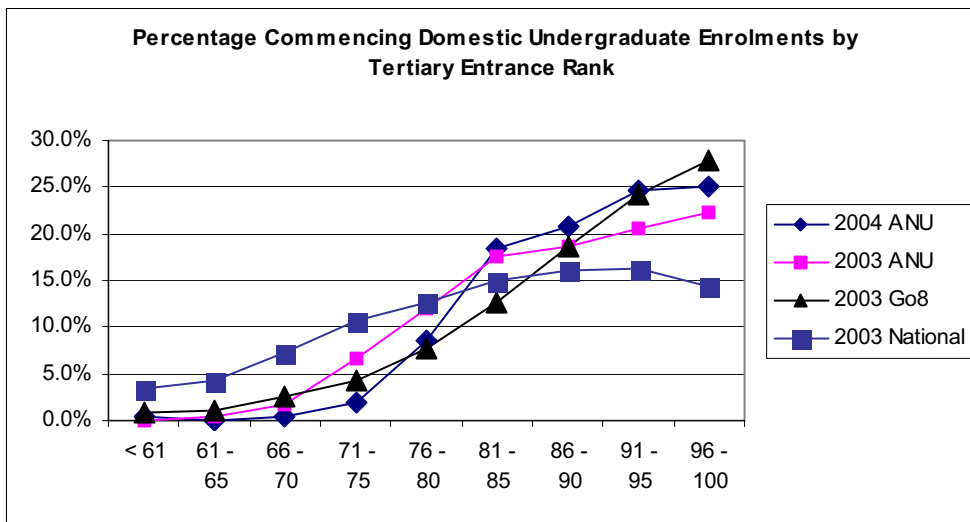
Equivalent full-time student enrolments by program and international / domestic status in 2004

Program	Domestic/ International	Enrolments
Higher Degree Research	Domestic	1089
	International	431
Higher Degree Research Total		1519
Postgraduate Coursework	Domestic	847
	International	685
Postgraduate Coursework Total		1532
Undergraduate	Domestic	6300
	International	1200
Undergraduate Total		7500
Non-award	Domestic	25
	International	122
Non-award Total		147
Grand Total		10698

Reasons for choosing ANU

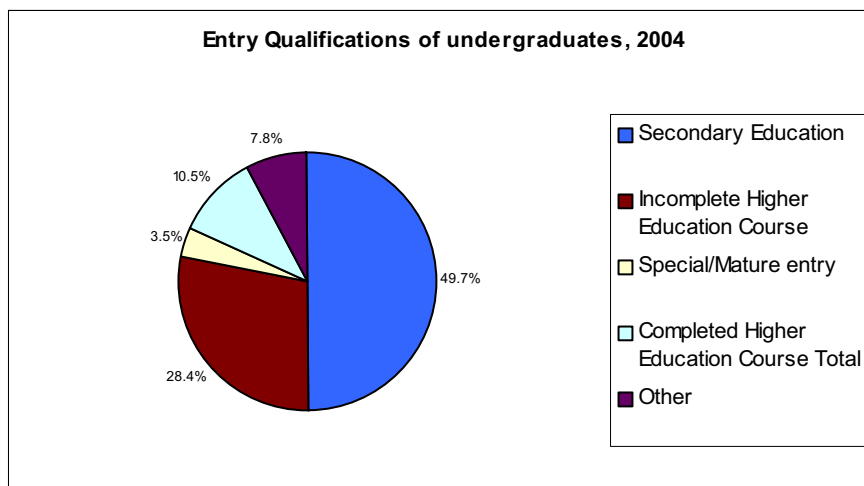


Tertiary Entrance Ranks



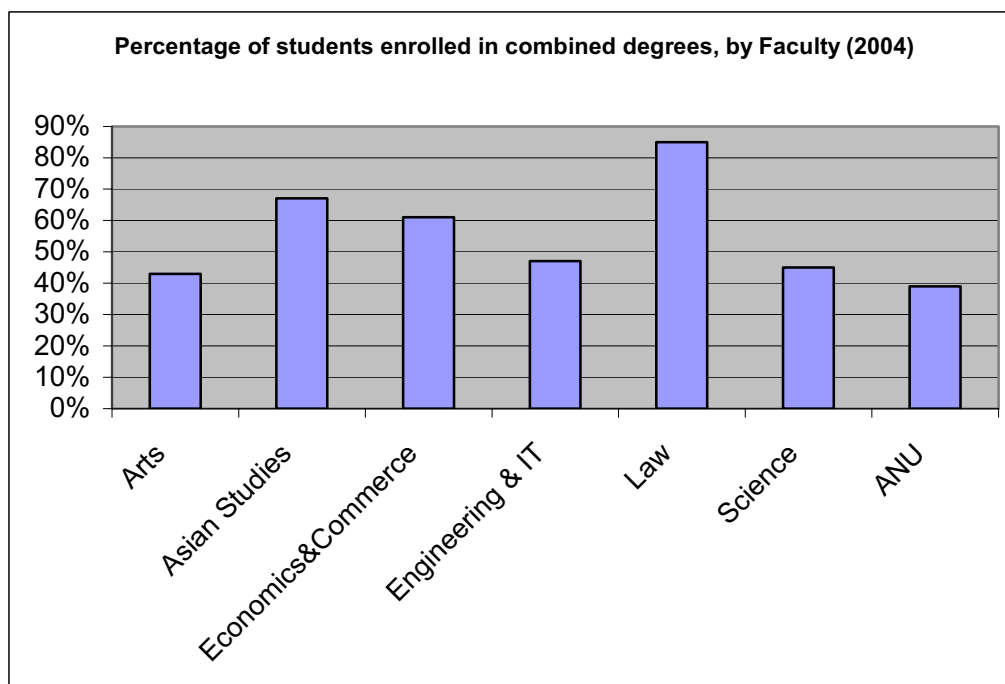
Source: Universities Admissions Centre, 2003 and 2004

Basis for ANU Admission 2004



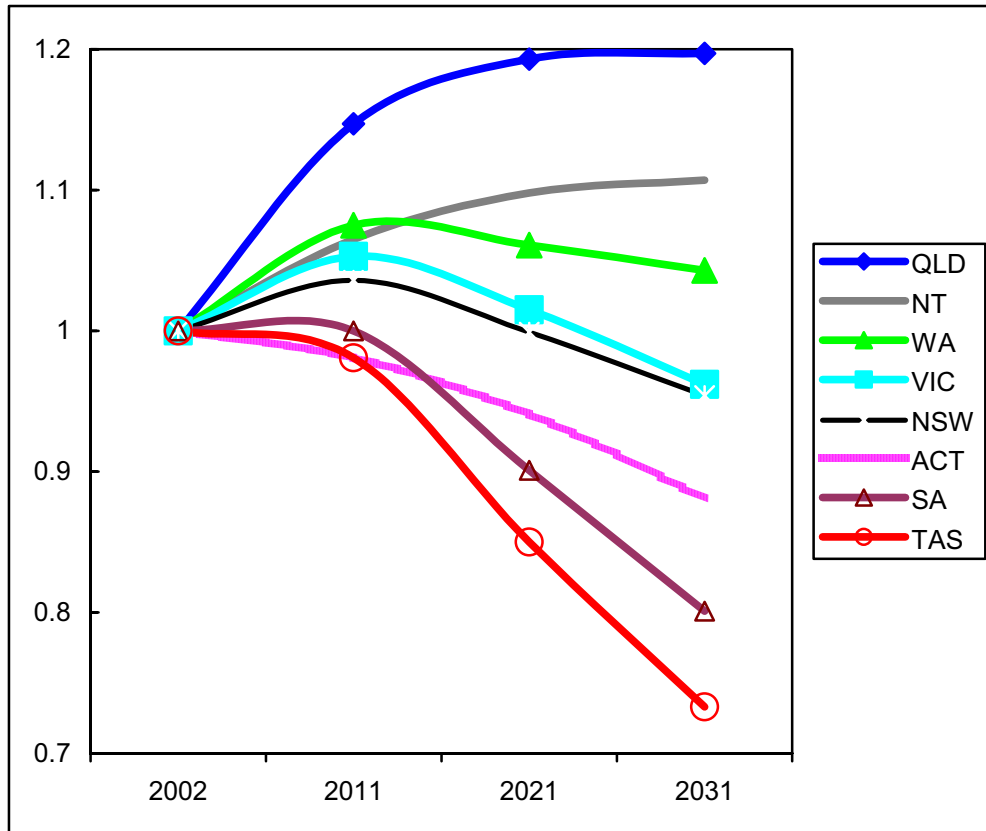
Source: Universities Admissions Centre 2004

ANU Student Enrolments in Combined Degree programs



Source: ANU Statistics Office

Population projections by state - 15 to 24 year olds



Source: ABS Population projections, 2002

STAFF

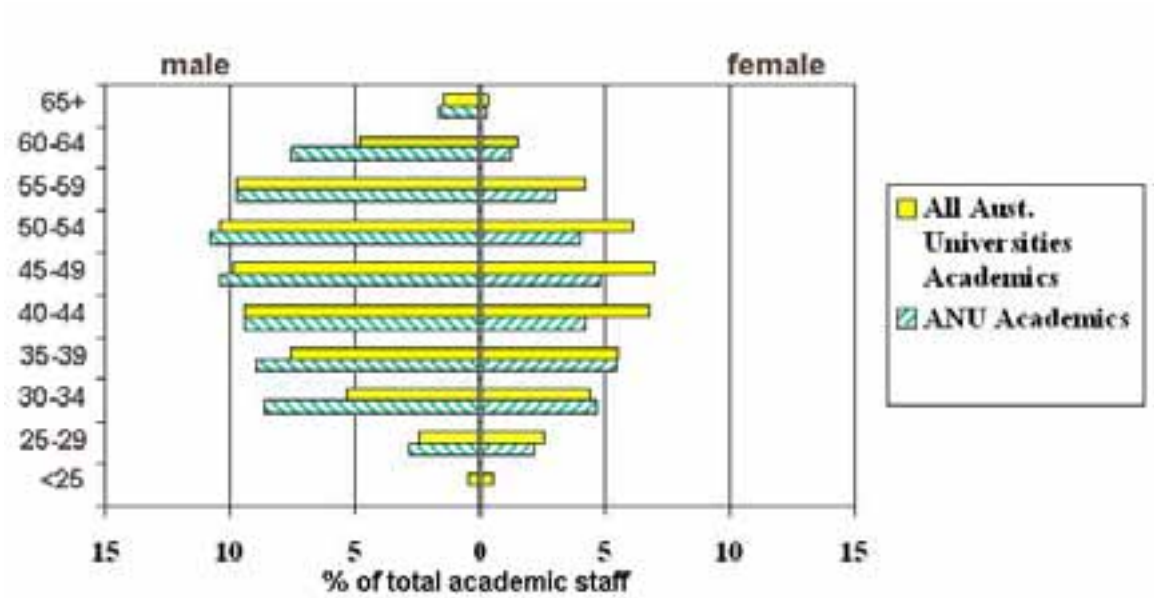
- The ANU has the largest number of research-only academic staff in Australia.
- The ANU faces the challenges of an ageing workforce.
- The University also faces the challenge of a gender imbalance in all age groups among its academic staff.

Staff at Schools, Faculties and Centres, 2003

Academic Area	Academic			TOTAL
	RO	TtR	General	
Institute of Advanced Studies				
Resource & Env Studies	15	1	15	31
Medical Research	82	-	180	262
Astronomy & Astrophysics	21	1	53	75
Biological Sciences	78	-	102	180
Chemistry	51	-	67	117
Earth Sciences	45	-	71	116
Info Sci & Engineering	22	-	17	39
Pacific & Asian Studies	86	4	93	182
Physical Sc & Engineering	96	1	93	190
Social Sciences	86	6	74	166
IAS Total	581	13	764	1,358
Centres				
Asia Pac Sch of Econ & Govt	9	14	29	52
Aboriginal Econ Policy Res	11	-	5	16
Cross-Cultural Research	20	-	8	28
Mathematical Sciences	25	2	4	30
Mental Health Research	7	-	17	23
Humanities Research	5	2	9	16
Epidemiology & Pop. Health	24	4	17	45
Nat'l Grad Sch Management	2	9	12	22
Centres Total	102	30	101	233
The Faculties				
Arts	8	88	33	129
Asian Studies	-	30	7	37
Economics & Commerce	2	67	20	88
Engineering & IT	6	33	46	86
Law	2	42	29	73
Medical School	1	5	6	12
Science	40	108	92	240
Nat'l Inst of the Arts	-	73	53	125
The Faculties Total	59	445	286	790
Other	1	16	783	799
TOTAL STAFF	743	504	1,933	3,180

RO = Research Only; TtR = Teaching and Research

Age and Gender Distribution of Academics at the ANU and in Australia



Source: DEST Higher education Statistics: ABS Labour Force by Age and Gender

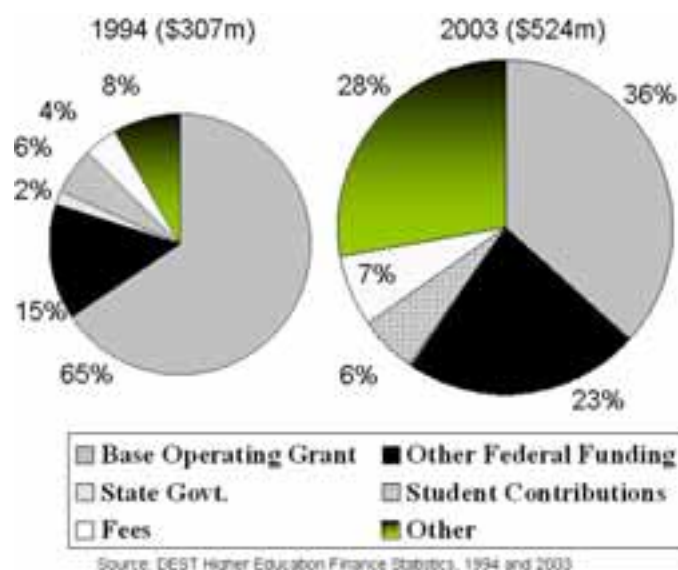
FINANCES

- ANU revenue has grown by 70% from \$307 million to \$524 million in ten years.
- The University has diversified its revenue since 1994, with only 36% of revenue from the Commonwealth Base Operating Grant.
- Competitive research funding is now a major source of the ANU's income.

ANU revenue sources 2000-2003, by percent

Year ended Dec. 31	2000	2001	2002	2003
Operating grant (including HECS & PELS)	56.8	51.7	54.3	41.3
Research funding	9.5	10.0	14.0*	22.7**
Full fee-paying student income	4.2	4.8	6.0	6.8
State grants	0.2	0.2	0.6	0.3
Consultancy, contract research and private grants	6.9	7.1	8.3	8.4
Investment Income	12.4	10.3	5.4	7.4
Other fees and charges	9.7	9.2	10.8	13.2
Other revenue	0.3	6.8	0.6	0.1

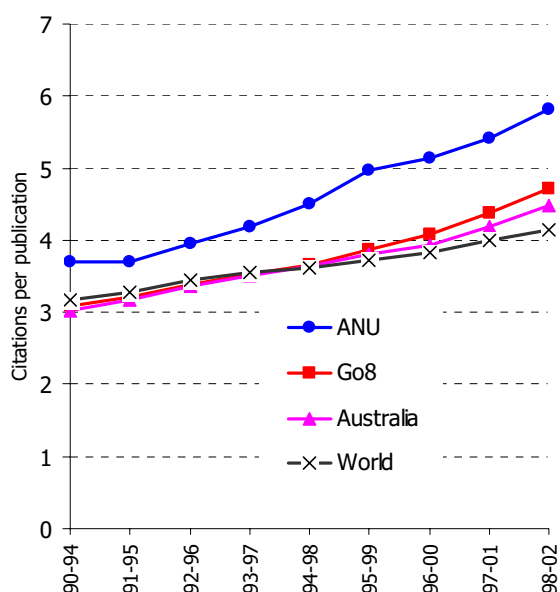
ANU revenue sources, 1994 and 2003



PERFORMANCE

- ANU has a high volume of high quality research outputs.
- On average, each ANU researcher produces at least one work rated in the top 25% in the world, and some areas exceed three.
- ANU graduates report higher levels of satisfaction than do all universities, particularly with intellectual climate.

Citations per publication, selected comparisons



	No of Pubs	Cpp	Impact relative to World
ANU	7464	5.81	1.34
Go8	53460	4.71	1.09
Australia	97131	4.47	1.03
World	3454179	4.33	1.00

Source: The Australian National Citation Report, prepared by the Institute for Scientific Information® Inc. (ISI®, Philadelphia, Penn., USA: © Copyright Institute for Scientific Information 2002. All Rights Reserved.

Publications

Unweighted Research Publications 2002							
	FTE Academic Staff	Books Authored research	Book Chapters	Article in Scholarly Refereed Journal	Full Written Paper Refereed Proceedings	All	All Publications per FTE Academic
ANU	1,160	68.67	333.6	1,226.72	158.74	1787.73	1.541
Australia Output (net of ANU)	29,838	485.3	2,556	17,810	6,885	27,737	0.93
Go8 Output (net of ANU)	12,234	254	1,299	10,115	2,581	14,248	1.165
ANU output:*							
Faculties		19.6	104.0	324.3	65.7	513.6	
IAS & Centres		49.1	229.6	902.4	93.0	1274.1	
ANU staff as % of all staff	3.8%						
ANU output as a % of all output		12.4%	13.1%	6.9%	0.02%	6.5%	
Publication profile: % of total output in a particular category							
Australia		1.8%	9.2%	65.1%	24.8%		
Go8 (net of ANU)		1.8%	9.1%	71.0%	18.0%		
ANU		3.8%	18.7%	68.6%	8.8%		
Source: AVCC, Summary of Unweighted Publications Data by Category, 2002; * ANU publications are the audited numbers found at www.anu.edu.au/ro/data/2002statistics.php . Staff numbers are drawn from Commonwealth department Education, Science and Training, <i>Selected Higher Education Statistics, Staff, 2002</i> .							

Number of works rated in top 25% internationally per ANU Researcher

Research works in the Top 25% of works worldwide	Submitted Papers*	Participating Staff	Expected Result**	Actual Result	Actual to Expected Outcome ratio
Asian and Pacific Studies	746	216	29.0	68.8	2.38
Astronomy and Astrophysics	123	27	22.0	75.3	3.43
Australian Indigenous Studies	216	76	35.2	62.6	1.78
Biological Sciences	327	75	22.9	68.1	2.97
Biomedical Research	542	153	28.2	60.7	2.15
Business and Commerce	175	48	27.4	53.2	1.94
Chemical Sciences	306	75	24.5	71.1	2.90
Earth Sciences	369	103	27.9	63.5	2.27
Economics	419	118	28.2	55.1	1.96
Environmental Research	205	62	30.2	48.4	1.60
History and Archaeology	487	147	30.2	75.3	2.49
Info. Sciences and Engineering	371	114	30.7	63.3	2.06
Language and Culture	471	176	37.4	75.2	2.01
Law	437	173	39.6	62.6	1.58
Mathematical Sciences	250	62	24.8	83.8	3.38
Philosophy	129	34	26.4	89.2	3.38
Physical Sciences	560	133	23.8	83.9	3.53
Policy and Political Sciences	438	130	29.7	70.4	2.37
Psychology and Mental Health	186	50	26.9	55.8	2.08
Studies in Human Society	600	184	30.7	63.1	2.06
Visual Arts	62	26	41.9	67	1.60

*up to 5 works per researcher over the period 1995-2004

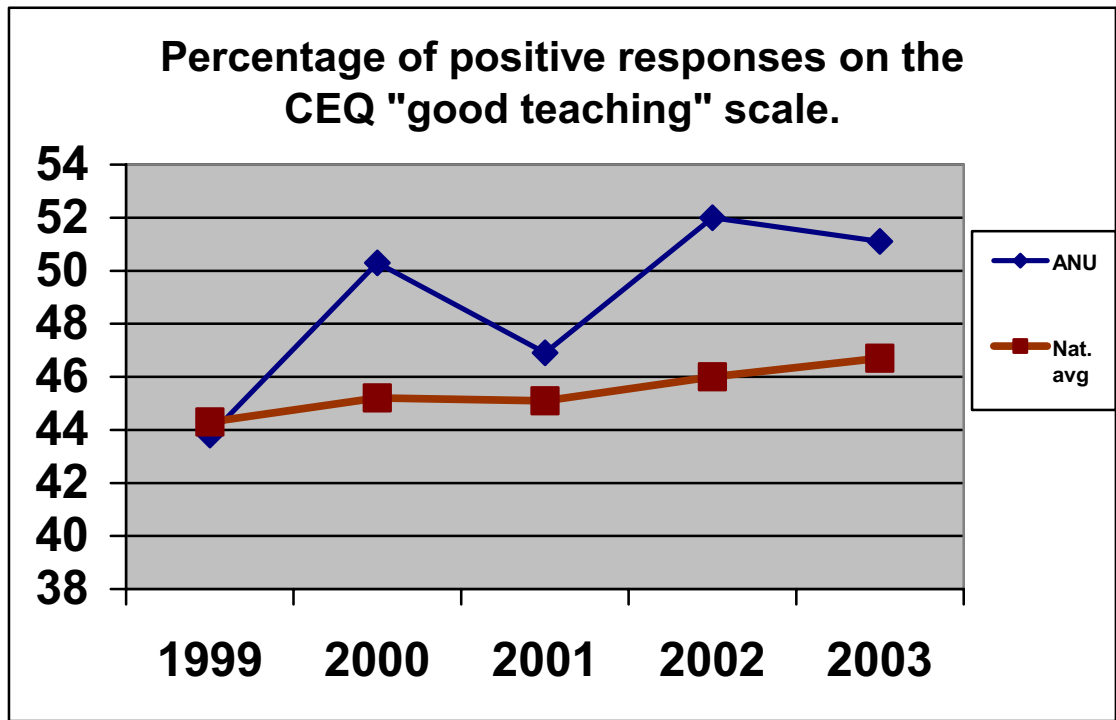
**1 work per researcher on average assessed as being in top 25% of world research in the discipline

Graduate Satisfaction (Course Experience Questionnaire) 2003

Scale	ANU agreement (%)	National Agreement (%)	Difference
Good Teaching	51.1	46.7	4.4
Generic Skills	66.3	63.0	3.3
Graduate Qualities	72.1	69.1	3.0
Intellectual Motivation	75.1	70.9	4.2
Overall Satisfaction	74.4	68.4	6.4

Source: Graduate Careers Council of Australia, 2004

Graduate Satisfaction, Teaching (Course Experience Questionnaire), ANU and Australia



Source: Graduate Careers Council of Australia, 2003