

Public Universities & Higher Education Needs

A submission by the Australian & New Zealand Association for the Advancement of Science (ANZAAS) to the inquiry of the Senate Employment, Workplace Relations, Small Business and Education References Committee of the Senate of Australia into the capacity of public universities to meet Australia's higher education needs.

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Introduction

This submission has been prepared on behalf of the Australian and New Zealand Association for the advancement of Science (ANZAAS) Inc. For over 100 years ANZAAS has sought to promote the development and maintenance of Australia's capacity to conduct scientific research and the public appreciation of science. ANZAAS welcomes the opportunity to make a submission to the Inquiry.

Since the Inquiry was announced there has been considerable publicity given to allegations of cases where full fee paying students may have been given favourable treatments. We are unaware of the details of these claims but we trust that the Committee will seek to obtain and test any evidence relating to them. It is extremely important for the standing of Australian Universities that these claims are examined, and are seen to be examined, by an impartial body. If the claims can be proven, then action must be taken to ensure that the circumstances are not repeated; if the claims are not substantiated, this needs to be clearly stated. We do not believe that the behaviour claimed in the media is widespread or common, indeed given the importance of reputation and standard in attracting students, it would be counter productive to lower standards for particular groups of students.

Nevertheless, there are questions about the capabilities of students which need to be addressed. Concern has been expressed, in, for example, the recent Batterham report, about the decline in the number of students entering universities to study the sciences and technology. In part this decline reflects a choice amongst students for what are seen as more financially rewarding careers in fields such as law and accountancy, but it also reflects a decline in the number of students taking sciences and higher mathematics in high school years 11 to 12. If these declines continue, then the future capacity of public universities to meet national needs is likely to be impaired by lack of qualified students. There are indications of a looming shortage of high school teachers, and this is likely to be particularly acute in the sciences and mathematics, and exacerbated by similar shortages overseas (for example, the United Kingdom). The employment of school teachers is a matter for the States, but nevertheless, the problem is a national one.

The role of public universities.

Before addressing the specific terms of reference we would like to affirm our support for the concept of public universities. We have no objection to private universities and support the continuation of a diversified system encompassing both public and private sectors. Nevertheless, a strong and diverse public sector should form the basis of tertiary education in Australia. A national public university sector is an investment in the future, and ideally, public funding on a national basis should allow national needs for more education and research to be addressed in a co-ordinated way.

Terms of reference (a) i.

Universities are sometimes perceived as being inadequately responsive to changing demands. Some of these criticisms may be justified, but there must inevitably be considerable inertia in the system.

Universities have little control over trends in subject choice in high schools; indeed, there appears to be a poor understanding of how these choices are made. Thus, there can be substantial change from year to year in demand for particular courses. Universities have not been good at anticipating these fluctuations and attempts to manipulate demand through quotas, pre-requisites, and adjusting entrance marks have not been totally successful. Only in very high demand disciplines like Medicine and Law are numbers stable from year to year. The volatility of enrolments make long term forward planning difficult. In addition particular courses cannot be terminated instantly because of commitments to students mid way through their degrees.

Nevertheless, universities have made substantial changes to course structures and the range of subjects offered, but it is neither possible nor desirable for them to respond instantaneously to fluctuations in demand.

Terms of reference (a) ii.

Australia's public universities are autonomous institutions established by Acts of State parliaments.

ANZAAS strongly supports the principle of academic independence and freedom and believes it desirable that universities retain their autonomy of governance. Universities are responsible to their Senate/Councils, but may also owe allegiance to their State and to the Federal

government from which the bulk of funding comes. When issues related to the operation of universities arise these are likely to be examined by the State (as in the case of the recent Ombudsman's inquiry at Sydney University) although many of the underlying issues are likely to be generic to the University system as a whole. To ensure consistency of standards and to remove duplication of responsibilities, there is a case for having only a single system of oversight at the autonomous universities rather than the current dual approach.

Terms of reference (a) iii.

The quality of Australian public funded university research is of high standard. The system of competitive funding of peer reviewed application ensures that only world ranking research is funded. The funding constraints on research in recent years has meant that the success rate of grant applications has been substantially lower than in most other countries and that highly rated proposals have not been funded. The recent increase in ARC funding, announced in the Prime Minister's Innovation Statement *Backing Australia's Ability*, should increase the number of grants awarded without reducing the quality of research. A matter of concern, however, is the difficulty of young researchers breaking into the funding system, and it is as yet unclear that the new ARC arrangements will make establishing a research career any easier.

Assessing the quality of teaching is more difficult, but we are not aware of any evidence which would suggest that in international comparisons Australian university teaching would not rank highly.

What is of concern is whether present funding arrangements are appropriate to maintain the diversity of teaching. Across the country faculties and schools are being re-organised primarily for budget reasons. Schools in such fundamental disciplines as physics and chemistry have suffered reduction in staff numbers, some disciplines such as geology, are under threat at several institutions, while some specialisations such as entomology and plant pathology have all but disappeared.

Disciplines evolve and we would not suggest that school structures be immutable. However, it is not clear that, in the reorganisations that are taking place, the national interest is being safe guarded. The rationalisation which is occurring is determined within the context of a particular institution. This makes it possible for specialisations for

which the market is small to disappear, even if there is an identifiable national need to maintain that small market. It would be appropriate for the Commonwealth to identify specialities of this nature and commit funding to ensure that small centres of excellence can be maintained.

Loss of diversity in teaching will, in the longer term, result in a contraction of our research capability (this issue could also be raised under Term of reference (b) ii. or (b) iv.

Continuing education to maintain professional competence is an important activity of universities. It should not to be overlooked in designing funding arrangements for students and universities.

Articulation between universities and technical colleges, in their various guises, is an important issue for continuing education. Present arrangements do not encourage cooperation between institutions, or indeed between schools within an institution.

Terms of reference (b).

ANZAAS supports the development of a mixed funding model for tertiary institutions. However, we are concerned by the fall in the proportion of public funding to universities which has occurred in the past decade.

In overseas examples of mixed funding, for example Oxbridge, the main source of private funding is from interest or earnings from an endowment and direct expenditure of capital does not occur. Income from such sources can be planned so as to give a reasonable assurance of continuity. The majority of Australian universities do not have substantial endowments, and the probability of this situation changing in the foreseeable future is remote. If the public funding of Australian universities declines, the shortfall must be met from immediate earnings (for example from fee paying students) and not from long term investments. This means that there is little certainty of income which must be an impediment to long term planning.

Matters relating to Terms of reference (b) i. ii. and iv. were raised in discussion on Terms of reference (a).

Resources for infrastructure maintenance have been limited for some years. For the sciences the initiatives announced in the Prime Minister's Innovation Statement *Backing Australia's Ability* offer some relief, but we have yet to see how the good intentions translate into reality.

For science based disciplines the provisions of state occupational health

and safety legislation have major impacts. If this legislation were strictly enforced, it is probable that several universities would be placed in a difficult position. The cost of rectifying deficiencies will be high.

Terms of reference (b) v.

The commercial arms of Universities are involved in a range of activities. The involvement of academics as expert witnesses, in testing and design, in monitoring programs, and as consultants, is appropriate and can have considerable benefits for teaching and research. Provided that these activities do not consume too much of an academic's time (and regulations are in place at most universities to ensure this), and provided universities compete for consultancies with the private sector on a level playing field, these commercial activities should be encouraged.

We are less certain that it is appropriate for universities to be venture capitalists, and to date the track record in this activity is not marked by outstanding success. Collaborative arrangements between industry and universities are important avenues to innovation, but universities themselves are unlikely to have the resources to successfully complete the long road from discovery to the market place.

Our major concern with collaboration between industry and universities is the possibility that constraints may be imposed on the free dissemination of results. The traditional approach has been for academics to announce discoveries in appropriate peer-reviewed literature, to add to collective knowledge, and to expose new ideas to testing and criticism. Confidentiality agreements may limit the right to publish, which could have serious implications for scholarship.

Terms of reference (d).

ANZAAS strongly endorses the principle of equality of opportunity in education in public universities.

It seems probable, although the evidence is largely anecdotal, that the higher HECS debt for science students has been a significant factor in declining science enrolments in recent years. When the nation's future prospects depend, to a large extent, on our use of innovations flowing from science and technology, to discourage financially the young from studying science is absurd.

The current student income support measures (Terms of reference (d) iii.) are not sufficient to encourage students to move from their home towns to study at the university most suited to their careers. The immobility of students is the most noticeable difference between the Australian public university system and those of the United States of America, Great Britain and Europe. This puts pressure on our system to provide university courses in every subject in every city. This is obviously inefficient and makes it difficult for any university school to attain the critical mass needed for excellence. More support should be given to students living away from home.

Terms of reference (e).

While salaries are only one aspect of conditions of employment, the relative decline in salaries of Australian academics is certainly a factor affecting the ability of Australian universities to attract and retain staff. The adversarial approach to industrial relations experienced in recent years, increased teaching hours, greater bureaucratic demands, and ageing infrastructure, all contribute to low morale at many institutions. The all prevailing motto of the last decade has been “doing more with less”, but the limits to this approach have been reached. If Australian universities are to match public expectations of their role, there needs to be a substantial investment in their restoration.

An issue of particular concern to ANZAAS has been the decline in the numbers of technical support staff in departments of science and a greater reliance on short term contract staff employed for particular research projects. This has removed the career structure for technicians, adds to the difficulty of developing ideas to the point at which applications for grants can be made, and may give rise to problems in providing adequate surveillance and assistance to honours and research students.

Terms of reference (f).

The importance of science to Australia's future has recently been well articulated in the Batterham report. Given that universities remain at the centre of fundamental research, and are essential for the education of graduates, the findings of the Batterham report clearly demonstrate the importance of universities to the nation.

While the emphasis of ANZAAS is on science, strong university sectors across all disciplines are essential for national economic and cultural

development.

Regarding (f) i. and ii., the capacity of the public universities to contribute to economic growth in regional Australia and to increased exports is strongly dependent on the Internet. Many teachers in Australian Universities have made contributions to educational technology, including use of the internet. A number of government spending initiatives have been directed to this field. However, the discipline of educational technology is not regarded as academically respectable. Several strong schools of educational technology should be built up to increase the standing of the discipline.

High quality education over the internet requires, amongst other things, the use of graphics and sound and, hence, a wide bandwidth. The government should do all in its power to to reduce the cost of, and increase the extent of, wide band communication services. The relatively high cost of these services, and their restricted use, in Australia was commented on recently by Mr W Gates, the head of Microsoft Corporation.

Terms of reference (g).

Matters relevant to (g) iii. were raised in the preamble to this submission.

In relation to (g) i. there is a diversity of accreditation regimes applying to a number of disciplines. Some of these procedures are mandated by legislation, others are accepted as matters of custom and practice.

As far as we are aware, there has never been an investigation into the effectiveness of these various accreditation processes. This current inquiry does not afford sufficient time to address the issue, but it would be appropriate if the committee could identify the need to institute research on the topic. External accreditation in some disciplines (such as medicine) is important for the maintenance of public confidence in the standards of graduates. However, at a time of rapid change in teaching methods and in our understanding in many subject areas, there is a possibility that accreditation processes may inhibit innovation. This is an area which should be investigated.

The Federal Government has recently initiated moves to establish a quality assurance mechanism for universities. The new quality assurance agency should be allowed to demonstrate this success (or otherwise) before a different overall quality assurance regime is proposed.

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