

1995

Research assistants in the clever country

Michael K. Organ
University of Wollongong, morgan@uow.edu.au

S. Svensen
University of Wollongong

Follow this and additional works at: <https://ro.uow.edu.au/commpapers>



Part of the [Business Commons](#), and the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Organ, Michael K. and Svensen, S.: Research assistants in the clever country 1995.
<https://ro.uow.edu.au/commpapers/518>

Research assistants in the clever country

Abstract

This paper examines the employment conditions of research assistants in universities in the context of the stated intention of the Australian government to transform Australia into the 'clever country'. Research assistants have played an important role in Australia's research efforts. The growing teaching and administrative workloads of academic staff, and the increasing sophistication and complexity of research methodologies, have increased the demands on research assistants and the importance of their contribution. Despite this, there has been little improvement in the employment conditions of research assistants. These conditions include the absence of any job security; lack of career structure and development; and insufficient recognition of qualifications, experience and skills. Research assistants have no common career structure, some being employed under academic staff conditions, others under general staff conditions and some as neither. Union coverage of research assistants is divided between several unions, making effective representation difficult. The rules of the funding agencies, the Australian Research Council and the National Health and Medical Council are inconsistent with award conditions of research assistants which specify that prior experience must be taken into account when determining initial salary levels. These sub-standard employment conditions act as deterrents to talented researchers undertaking or continuing careers in research, and thus undermine Australia's research effort. The reports of several government inquiries into university research activity are analysed, and are found to be inadequately researched and to provide no solutions to the problems outlined. Suggestions for the provision of a viable career structure for researchers are provided. It is concluded that the development of Australia as a 'clever country' depends to a large extent on research workers becoming more actively involved in the promotion of improved conditions of employment.

Disciplines

Business | Social and Behavioral Sciences

Publication Details

This article was originally published as Organ, MK and Svensen, S, Research assistants in the clever country, WP 95-4 Working Paper Series, Department of Economics, University of Wollongong, 1995, 17p.

ABSTRACT

This paper examines the employment conditions of research assistants in universities in the context of the stated intention of the Australian government to transform Australia into the 'clever country'. Research assistants have played an important role in Australia's research efforts. The growing teaching and administrative workloads of academic staff, and the increasing sophistication and complexity of research methodologies, have increased the demands on research assistants and the importance of their contribution. Despite this, there has been little improvement in the employment conditions of research assistants. These conditions include the absence of any job security; lack of career structure and development; and insufficient recognition of qualifications, experience and skills. Research assistants have no common career structure, some being employed under academic staff conditions, others under general staff conditions and some as neither. Union coverage of research assistants is divided between several unions, making effective representation difficult. The rules of the funding agencies, the Australian Research Council and the National Health and Medical Council are inconsistent with award conditions of research assistants which specify that prior experience must be taken into account when determining initial salary levels. These sub-standard employment conditions act as deterrents to talented researchers undertaking or continuing careers in research, and thus undermine Australia's research effort. The reports of several government inquiries into university research activity are analysed, and are found to be inadequately researched and to provide no solutions to the problems outlined. Suggestions for the provision of a viable career structure for researchers are provided. It is concluded that the development of Australia as a 'clever country' depends to a large extent on research workers becoming more actively involved in the promotion of improved conditions of employment.

Research assistants are largely 'hidden' people around the university ... they are not noted for the weight their opinions carry in staffrooms or the space, even existence, of their work areas ... These people are usually women ... many research assistants are employed through outside granting bodies, and the university and granting body can play each other off when dealing with research assistants' employment and salaries ... The relationship between the research assistant and the academic is frequently one of patronage ... the legitimate question of co-authorship is usually greeted with incredulous smirks and advice about the critical state of the current labour market ... the union has still not secured even a basic agreement with the university on the research assistants' behalf ... the university refuses to negotiate directly with research assistants ... Part-time research assistants are in an even more inequitable situation ... the role of research assistants in academia is a further example of the service roles of women in society. This inequity can only be rectified through solidarity and general political struggle against oppression and exploitation in the home, the workforce and the unions ... (Hudson and Sayer, 1978).

The scenario outlined by Hudson and Sayer 17 years ago would be familiar to most research assistants today. Research workers continue to be dissatisfied with their career prospects and the lack of appropriate recognition for skills and experience (Ashmore, *et al.*, 1992; Grimes, 1990; Kirov, 1989). If research workers believe that they are being treated as second class citizens, the federal government's objective of transforming Australia into the 'clever country'² will be difficult to achieve.

In this paper, we outline some of the problems facing research workers in Australian universities, with an emphasis on research

assistants, the lowest classification of paid research worker. It is concluded that, while conditions have improved slightly since 1978, research assistants are still among the most marginalised public sector employees, and subjected to employment conditions which should be considered unacceptable in a society which values the benefits accruing from research activities.

CONDITIONS OF EMPLOYMENT

Research assistants are employed to help their supervisors — usually tenured academics — achieve desired research outcomes. Typical duties include data collection, entry and analysis, conducting fieldwork and experiments, undertaking library and archival searches, and writing and editing academic publications. During all phases of the research process, research assistants make decisions which have a direct bearing on project outcomes. They typically display a high level of work-related autonomy and commitment (Ashmore, *et al.*, 1992). They are well educated. A university degree is required, and it is difficult to obtain employment in most disciplines without at least an honours degree. Many have masters degrees, and some have PhDs. In addition, research workers acquire invaluable research skills and know-how from their work experience.

The decrease in the ratio of university teachers to students in the 1980s (Committee to Review Research Policy, 1989: Table 3.5) has increased the teaching and administrative workload of academics, leaving them less time to conduct research projects. Those academics with access to research assistance are best able to maximise their research output, and there is intense competition to obtain the research funds necessary to obtain this assistance. Fifty per cent of published work at universities is generated by just 14 per cent of the academic staff (Department of Employment, Education and Training, 1992).

Numerically, research assistants comprise a substantial group within universities. At the University of Wollongong, an average of 45 were employed from 1988 to 1992, comprising 6 per cent of all general staff and 3.7 per cent of total staff numbers; 50 per cent were women. These figures underestimate the true numbers, as they do not include casually employed research assistants. Significantly, research workers comprise almost one third of the total number of temporary staff positions at this university (University of Wollongong, 1988–1992).

Despite their numbers, research assistants are, as Hudson and Sayer (1978) observed, practically invisible because they are spread thinly across campuses, and have a high turnover. This makes it difficult for them to organise effectively; moreover, the insecurity of their positions inhibits assertive behaviour. Research assistants do not have a common union to promote their interests at either state or federal level. In some states they are covered by either State Public Service Federation/Community and Public Sector Union affiliates or the Health Services Union, depending on institution, while at some campuses in Victoria and South Australia they are covered by the National Tertiary Education and Research Industry Union, the union which covers academics and academic research classifications like Research Fellow. This demarcation and fragmentation makes it difficult for the unions to effectively represent research workers, and consequently union penetration among research assistants is low (Svensen, 1993). Rationalisation of union coverage so that all research workers are covered by the same union would appear to be in the best interests of both research assistants and the union movement.

Wages and conditions for research assistants vary widely between and within institutions. At some universities, they are considered general staff, at others, academic staff. At least one institution, the Queensland University of Technology, considers them to be neither academic nor general staff. The minimum

award rate of pay for a research assistant in New South Wales is \$24,754. Following the recent restructuring of general staff salary scales, research assistants paid under general staff conditions of employment should be paid a minimum of the Level 5 general staff rate of pay, the level appropriate for a university graduate with no work experience. This rate varies slightly between institutions, and is currently \$29,332 at the University of Wollongong. While most institutions adhere to the Level 5 minimum, there have been instances of jobs being advertised at lower levels, by making the holding of a degree 'well regarded' rather than mandatory. For research assistants employed on the Academic Level A pay scale, the current minimum is \$29,539. At the Queensland University of Technology, which appears to set its own pay rates for research assistants, the minimum rate is \$20,116.³ Such discrepancies in minimum payment rates would not be considered acceptable in other industries and professions.

While the restructuring of the general staff salary scale has closed the gap which formerly existed between general staff and academic staff research assistant scales, not all general staff research assistants benefited equally. While those on the bottom of the salary scales obtained sizeable increases, those on higher increments were translated to the bottom of the range, and award conditions relating to qualifications and experience were disregarded.

The major problems facing research workers in Australia are the lack of a defined career path and the casual and temporary nature of most appointments. Almost all research assistants are employed on a casual basis or on short-term contracts, meaning many are denied benefits enjoyed by permanent staff such as long service leave, regular annual wage increments, full superannuation entitlements, annual leave and sick leave entitlements, maternity leave and study leave. The majority of research assistants at Australian universities are employed on individual or group

research projects provided with funding by organisations such as the Australian Research Council or the National Health and Medical Research Council. These projects are typically funded for one to three years. A minority of research assistants are employed by research programs and centres provided with funding by individual universities or government agencies. Funding for these programs are typically reviewed every year, or every three years at most, so that contracts for research assistants rarely exceed three years' duration and are usually much shorter. The short-term nature of the employment contract has given rise to a perception among some union officials and delegates that research assistants are not real university employees. The rules of the major granting bodies (the Australian Research Council and the National Health and Medical Research Council) make it clear, however, that research support staff are employees of the institution at which they work, and not employees of the granting body.

These terms of employment make normal financial planning, such as taking out a loan for a house or car, impossible for most research assistants, and contribute to insecurity and lower morale. Periodic unemployment and underemployment, combined with low remuneration, add to the problem. Because of the lack of a defined career path, this phase of a researcher's life can span many years. A survey at the University of Wollongong indicated that research assistants have an average of nearly five years experience as a researcher within universities, with some examples of people spending a decade or more on short-term contracts (Svensen, 1993). After this length of service they can be dismissed for any reason at a week's notice, with no redundancy pay, and often no SSAU superannuation. A contract is not a guarantee of employment even for the period specified, but can be terminated at any time for any reason. The University of Wollongong survey also showed that 75 per cent of research

assistants were being paid at the minimum wage rate, which under the award is appropriate only for people with pass degrees and no experience.

Rules of the various research funding bodies help to ensure that most research assistants are employed at the minimum rate, irrespective of their qualifications and experience. Australian Research Council and National Health and Medical Research Council rules state that new appointees must be placed on the base salary of the appropriate range (Australian Research Council, 1994: p. 47; National Health and Medical Research Council, 1994: p 14). Persons awarded grants usually do not know anything about the qualifications, experience and competence of their research assistants at the time they lodge their grant applications. It is impossible in these cases to provide justification of a higher level appointment until after the grant has been awarded. In addition, many approved grant applications are not fully funded. The grantee is therefore left with no option but to use the funds provided in the most efficient manner – employing research assistants for the longest period at the lowest pay rate. In such a situation the most suitable applicant for the position is faced with the choice of accepting a salary below their award entitlement, or declining the position. This is a situation which is not in the interests of the grantee or the research assistant. The present system therefore promotes the use of inexperienced personnel, and award avoidance. The productivity benefits of experience are ignored.

The short term of employment contracts means there is a high mobility of research assistants within and between institutions. Yet there are no provisions for the portability of accrued sick or holiday pay, and no requirement even that previous service be recognised for long service leave. A research assistant who changes universities is therefore usually required to start from scratch.

There are few avenues of upward mobility for research assistants within the university system. There is no formal articulation linking general staff research assistants with higher research classifications. In the case of academic staff research assistants, such articulation exists, but, because of the short-term nature of most jobs, those on the academic scale may be no better off in practice.

A proportion of research assistants eventually become academics, but, given the irregular cycle of university expansion, opportunities are patchy, at best. It is also sometimes difficult for a research assistant to acquire the necessary teaching experience to obtain academic work, even if this is a career path they wish to pursue. As a result, many talented researchers have little alternative but to gravitate to positions in government or industry, meaning the skills and experience of a large proportion of the best Australian researchers are lost to the university sector, and often to research entirely.

It is possible for research assistants with PhDs to apply for research fellowships from the Australian Research Council, National Health and Medical Research Council or other bodies, but few research assistants have PhDs. The present system offers no incentive for them to acquire these magic letters, although, in many cases the research work performed by research assistants could form the basis of a research higher degree. National Health and Medical Research Council rules stipulate that full-time students cannot be employed as research assistants. The Australian Research Council had a similar rule, but it has been dropped from the 1996 guidelines (National Health and Medical Research Council, 1994; Australian Research Council, 1993, 1994). Most universities have rules restricting the amount of paid employment postgraduate students may undertake.

After spending 35 hours a week engaged in research, most research assistants do not have the time and energy needed to

study part time as well, especially those with family responsibilities. So, for most research assistants, the obtaining of higher qualifications means a substantial salary cut, and losing two or three years of superannuation eligibility, a harsh penalty for people who have already spent from four to six years on or below the breadline to obtain an education. In addition, some research assistants deliberately postpone their PhDs, saving it up for that rainy day when they find themselves out of job because of their insecure work position. The present system, therefore, not only does not encourage people to improve their qualifications, it actually discourages them.

Many universities have a scheme whereby staff members with outstanding publication records can be awarded doctoral degrees. Very often, however, the rules restrict such awards to full-time members of academic staff, closing off this avenue of qualification upgrading to most research assistants.

Next to job insecurity and the lack of a career path, the most frequent complaint of research assistants is the inadequate recognition they receive, particularly in the failure of some academics to include research assistants who have made a substantial contribution to a project as co-authors to a publication. A survey at Macquarie University in 1983 found that one in five research workers who answered the question indicated they thought they had not received appropriate recognition in publications with which they had been involved during the previous three years. These figures, if representative, indicate that while most academics do provide appropriate recognition to their assistants, there is a sizeable minority of research workers who feel that their contributions are inadequately recognised.

This does not exhaust the list of complaints made by research assistants; poor office and laboratory accommodation, poor equipment and inadequate library borrowing conditions are some of the other problems mentioned by research assistants when

asked to list areas which need improvement (Svensen, 1993).

All of these problems would be of no concern to anyone but the workers concerned, except for one vital consideration — the aspiration of Australia to be a 'clever country'. If a large proportion of the best people are leaving research because they cannot make an honest living at it, then it is difficult to see how the country is going to become clever. As with all occupations that require high degrees of training and skill, research workers need to acquire experience in order to maximise their potential. The provision of a better career path will encourage talented researchers to stay in research long enough to gain the necessary experience. A more experienced research workforce will be a more productive research workforce.

THE RESPONSE OF GOVERNMENT AND BUREAUCRACY

There has been a welcome focus of attention on research by government and bureaucrats in recent years (Australian Vice-Chancellors' Committee, 1991; Dawkins, 1989a, 1989b; Committee to Review Higher Education Research Policy, 1989). Even the 'issue of career structure for researchers' (Dawkins, 1989a) has been discussed. It will be argued here that the rhetoric of this literature exceeds its utility to researchers, and that the main outcome to date has been the directing of more money at old structures and ideas.

In October 1988, John Dawkins, then federal education minister, established a committee (the 'Smith Committee'), headed by Robert Smith, chair of the National Board of Employment, Education and Training, to review higher education research policy. Relevant recommendations of the committee were that the number and stipends of Commonwealth Postgraduate Research Awards be increased, that a second class of higher paid postgraduate scholarships be provided for 'key areas', and that a

system of National Career Fellowships be established under the auspices of the Australian Research Council (Committee to Review Higher Education Research Policy, 1989: pp. 13–14). The committee found that Australia spent less than half the amount on research and development as a proportion of gross domestic product than competitors such as Japan, the USA and Germany (Table 2.1). Moreover, there was a marked disparity in the amount spent per researcher between Australia (\$38,800 in 1986) and countries such as Japan (\$87,700), Germany (\$91,800) and France (\$63,000). The committee also reported that there was a perceived lack of a career structure or incentives for young scientists, a severe lack of morale, that a relatively low status was accorded researchers, and that an urgent change in attitudes was essential (pp. 23, 132). There was a need, the report continued, to provide opportunities to researchers so they could pursue full time research in a career structure in which there was a significant degree of security and a realistic prospect for career development. This could be done, it was concluded, by the creation of a national system of Australian Research Council career fellowships similar to those offered by the National Health and Medical Research Council. This would provide researchers with salaries on the academic scale on a three- to five-year basis, renewable subject to reviews of performance (pp. 31, 132–3).

The federal government responded favourably to the recommendations of the committee, with the notable exception of the provision of a career structure for researchers. The government was not convinced that the career fellowship model was the most appropriate response, given 'the projected escalation in employment demand from the mid 1990s' (Dawkins, 1989a: 51). The government therefore recommended an increase in the numbers of short-term, non-renewable post-doctoral fellowships (Dawkins, 1989b). The Australian Research Council provided 105 of these in 1992, an average of three per university

(Australian Research Council, 1992:10).

In its 1991 statement, 'Foundations for the "Clever Country"', the Australian Vice-Chancellors' Committee recommended that the number of short-term, non-renewable postdoctoral fellowships be increased further, to enable researchers 'to serve an apprenticeship within the system while waiting for suitable academic posts to become available'. It was also recommended that the number of postgraduate places be increased, and that academics be given another pay rise (Australian Vice Chancellors' Committee, 1991: 16-17).

Very little research was cited in support of the recommendations in these documents. If Australia aspires to become 'clever', it would seem logical for a review committee to perform or commission an examination of international best practices in research. No such endeavour is apparent in any of the reports. It would also seem appropriate to conduct some study into how the research process is carried out in Australia, to attempt to identify the main problems and to develop strategies for improvement. The Smith Committee, however, did not commission any studies into these questions, but was a passive receiver of submissions. The resulting report consists largely of unsubstantiated opinions and trite generalisations. Nevertheless, the committee at least did recognise there was a problem, and that something needed to be done about it.

The government rejected the Smith Committee's inadequate reform proposal, not to give us something better, but to give us more of the same system that got us into not-so-clever mode in the first place. The reason — a projected boom in demand for academics which would supposedly supply researchers with permanent jobs — has shown no sign of materialising by 1995. Even if it does later in the decade, it will be uneven across disciplines and will not necessarily be of benefit to many research workers. And what is to happen after the boom? The

government's approach is shortsighted at best.

The reports and statements share a major conceptual flaw. There is a fundamental premise that all researchers — or at least the only ones worth talking about and supporting — obtain a first-class honours degree, win a postgraduate scholarship and complete a PhD. The problem then becomes how to provide these scientists (humanities and social science researchers are seldom discussed) with a living until an academic position is found for them. Some research is needed to determine how well this scenario describes the typical research worker; we suspect that only a small minority traverse this idealised path.

Not all outstanding researchers receive the first-class honours degree that is now virtually a mandatory requirement to obtain a postgraduate scholarship (Australian Research Council, 1992: 82). A less-than-perfect result may have been attained in a coursework subject. An honours thesis may not have achieved a desired outcome. A person from a non-English speaking background may find it more difficult to obtain high marks than a person from an English-speaking background. A person with family responsibilities, or who has to work to finance their way through the course, may not have the same time to devote to their studies as persons without these disabilities. Performance can also be affected by temporary medical or emotional problems, or an incompatibility between student and supervisor.

Not all people who receive first-class honours follow the script and go on to do a PhD. They might instead decide to accept a research assistant job. Or they might commence a postgraduate degree and run into some problem with the thesis or supervisor and drop out, or take a masters degree. Only a minority of talented, active researchers, we suggest, qualify to compete for the limited number of post-doctoral fellowships available. If one wanted to design a system which seems fair, but which in fact favours males from financially secure English-speaking

backgrounds, it would be difficult to come up with a better scheme than this. In 1992, more than twice as many males as females were awarded Australian Research Council fellowships (Australian Research Council, 1992: 76). These data support the contention of Hudson and Sayer (1978) and other commentators that the present system is discriminatory.

Drawing lines in the sand between researchers with first-class honours and the rest, and between those with PhDs and the rest, is certainly a simple way of allocating resources, but it is unlikely to be the most efficient if it arbitrarily locks out many people with proven talent. What is needed are assessment procedures which take into account all relevant research experience. Avenues need to be opened to persons with a proven capacity to produce quality scholarly research.

TOWARDS A BETTER SYSTEM

If Australia aspires to be a clever country, attitudes to research need to be altered. University research should no longer be seen as an activity that people do for a couple of years until they find a 'real' job. A system which produces outcomes which favour men over women by more than two to one should be considered unacceptable. Salary rates of \$20,116 for full-time professional employees with university degrees cannot be justified. Unnecessary hindrances to research workers improving their qualifications should be removed. Avenues need to be opened to enable the best researchers to remain within the university system so that their talents can best serve the interests of the nation.

Research workers want a unified salary scale, conditions which parallel those of academics, and common union representation. As with Level A academics, a small proportion of research assistant positions should be tenured. This will ensure job security for at least the most talented researchers, and

improved career prospects for those with research potential. As the best researchers will occupy the tenured positions, their services will be in constant demand by individuals, groups and organisations with research money. The employing department, faculty or university will be paid for the services of the researchers, making the positions self-funding. In cases where no suitable tenured researcher is available it will be possible to employ one on contract. This will enable the same flexibility which the existing system provides to meet specialised requirements, and at the same time give the most talented researchers a career avenue and some chance to attain similar employment conditions to those enjoyed by other university professional staff. This can be achieved either by absorbing all research assistants into the Level A academic structure, or by creating a parallel general staff structure with articulation with higher classifications.

WHAT RESEARCH ASSISTANTS CAN DO NOW

Little will change for research workers until they are prepared to shoulder much of the responsibility for their poor conditions. Apathy, timidity and meekness never won anyone better employment conditions. If a research culture is to flourish in this country, researchers must become activists.

Some things can be changed merely by asking, especially changes that do not involve financial outlays. For example, at the University of Wollongong, a rule restricting PhDs by publication to full-time academic staff was changed so that any staff member employed on at least a 50 per cent fractional basis may apply. At the same university, the Centre for Staff Development has commenced a career development program for research assistants. The union covering research assistants at the University of Wollongong is developing a policy whereby a

proportion of persons employed on contracts for more than three years become quasi-permanent employees. The union has also developed a code of conduct to eliminate unnecessary casualisation and stem the proliferation of limited term contracts.

Much more needs to be done. The rules of research funding bodies need to be changed to make them consistent with the awards and agreements covering research workers, and to make it easier, where it is appropriate, for research assistants to improve their qualifications. The fellowship system needs to be overhauled to remove perceptions that it is discriminatory. Portability of accrued entitlements between institutions needs to be introduced. If things are to change for the better, research workers need to research and discuss the issues, hold meetings to discuss strategies, and lobby the relevant unions and officials.

NOTES

1. Michael Organ is archivist at the University of Wollongong Library Archives. He worked as a research assistant for a total of six years in the Departments of Geology, History and Politics, Economics, and Creative Arts at the University of Wollongong, mostly on a casual basis. Stuart Svensen worked as a research assistant for the Labour Market Analysis Centre at the University of Wollongong for three years, and is currently employed on a succession of very short contracts by the Economics Department, University of Wollongong.
2. The validity and meaning of the 'clever country' concept has been evaluated elsewhere (e.g. Macintyre, 1991). For the purposes of this article, we take it as its face value as meaning the creation of a culture which sees utility in the promotion and development of cognitive skills.

3. The QUT has adjusted its rates for Research Assistants as this was going to press.

REFERENCES

- Ashmore, S. E., Harvey, L. A. and Runciman, C. 1992, 'Scientific assistants: contributions and gender issues', *Search*, 23(8), pp 239—241.
- Australian Research Council 1992, *Report on Research Funding Programs 1992*, Canberra, AGPS.
- Australian Research Council 1993, *Large Research Grants. Guidelines for 1995*, Canberra, AGPS.
- Australian Research Council 1994, *Large Research Grants. Guidelines for 1996*, Canberra, AGPS.
- Australian Vice-Chancellors' Committee 1991, *Foundations for the "Clever Country". Report for the 1992—94 Triennium*, Canberra, AVCC.
- Committee to Review Higher Education Research Policy 1989, *Report*, Canberra, AGPS.
- Dawkins, J. S. 1989a, *Research for Australia: Higher Education's Contribution*, Canberra, AGPS.
- Dawkins, J. S. 1989b, *Career Progression for Outstanding Australian Researchers. Advice of the National Board of Employment, Education and Training in Response to the Minister's Reference on Career Structures for Researchers*, Canberra, AGPS.
- Department of Employment, Education and Training, Higher Education Division 1992, *Research Performance, Occasional Paper No. 2*, Canberra, AGPS.

- Grimes, S. 1990, *Casual Careers or Career Casualties? Women's Employment and Equal Opportunity at Universities: A Case Study of Partial Employment 1985—1987*, Kensington, Industrial Relations Research Centre, University of NSW.
- Hudson, K. and Sayer, S. 1978, 'Research assistants in academia', *Refractory Girl*, 16, May, pp 17—18.
- Kirov, S. 1991, 'Women in medical research and academia: what future?', *Australian Universities' Review*, 34(1), pp 38—43.
- Macintyre, S. 1991, 'The meanings of the clever country', *Australian Universities' Review*, 34(1), pp 34—37.
- National Health and Medical Research Council 1994, *Medical Research: Advice and Instructions to Applicants seeking Project Grant Support in 1996*. Canberra, National Health and Medical Research Council.
- Stokes, T. 1992, *Research and Research Training in a Quality Higher Education System, Occasional Paper, National Board of Employment, Education and Training*, Canberra, AGPS.
- Svensen, S. 1993, Unpublished survey of research assistants, University of Wollongong.
- University of Wollongong 1988—1988, *EEO Annual Reports*. Wollongong: University of Wollongong.