# Council of Australian Postgraduate Associations (CAPA)

## Submission to the House of Representatives Industry, Science and Innovation Committee Inquiry into Research Training and Research Workforce Issues in Australian Universities

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Council of Australian Postgraduate Associations Incorporated

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The Council of Australian Postgraduate Associations (CAPA) is the national peak body representing Australia's 270,449 postgraduates, including 49,467 research and 220,982 coursework students.[1] CAPA welcomes the Inquiry into Research Training and Research Workforce Issues in Australian Universities and the opportunity to contribute a submission.

In responding to the Inquiry terms of reference, the broad recommendations in this submission are that the aims of research training should be revised and expanded to account for the proper role and potential impact of research education, and that there is a pressing need for adequate investment in this area. Investment needs to provide for flexibility, opportunity and adequate support measures if our efforts in research education and research workforce development in Australian universities are to be effective and sustainable in the longer term.

## The aims and benefits of research education

The Commonwealth program for funding Australian research education is the Research Training Scheme (RTS). The objectives of the RTS are to:[2]

- enhance the quality of research training provision in Australia
- improve the responsiveness of [higher education providers] to the needs of their research students
- encourage [higher education providers] to develop their own research training profiles
- ensure the relevance of research degree programmes to labour market requirements
- improve the efficiency and effectiveness of research training.

The principal achievement of the RTS has been the improvement of efficiency in research training. It has also prompted improvements in planning, reporting and management of research and research education. As to any of its other aims, the performance of this scheme is questionable. There are examples of improvements in quality, responsiveness and relevance to labour market requirements. Without adequate investment, however, under the current scheme, it has been difficult to sustain broader improvements. Further, the question should be posed: even if the current program were able to meet its aims, are these aims themselves satisfactory in the current environment?

CAPA contends that the aims of the Research Training Scheme as they currently stand are too narrow. They are inadequately informed by the full range of potential benefits of properly resourced research education. They fail to provide for the full range of opportunities available through encouraging and supporting talented researchers, and investing in our universities, allowing the means for leadership and innovation across a broad range of fields.

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[1] Student numbers from Department of Education Employment and Workplace Relations (DEEWR) (2007b). *Students 2006 (full year), Selected Higher Education Statistics*. www.dest.gov.au.

[2] From "About the RTS": http://www.dest.gov.au/sectors/research_sector/programmes_funding/ programme_categories/ professional_skills/research_training_scheme.htm

In demonstrating that the existing aims of research training should be expanded upon, and that further investment is needed, this submission will address the terms of reference for this Inquiry under the following headings:

1. **Sustaining quality in innovation and research**
- The contribution of research training programs to Australia's competitiveness in the areas of science, research and innovation

2. **Investing in research graduates**
- The adequacy of current research training schemes to support Australia's anticipated future requirements for tertiary-qualified professionals in a wide range of disciplines

3. **Providing for the future of higher education**
- Factors for graduates that determine pursuit of a career in research
- Opportunities for career advancement for research graduates and staff
- Factors determining pursuit of research opportunities overseas
- Australia's ability to compete internationally for high quality researchers
- Whether Australia's academic workforce is ageing, and the impact this may have on Australia's research capacity

4. **The current Research Training Scheme**
- The effectiveness of current Commonwealth research training schemes

5. **Opportunities for improvement**
- Adequacy of training and support (including income support) available to research graduates in Australia.

The principal challenge in research education and research workforce planning lies in being innovative in how we support innovation. It must be recognised that we cannot only focus on measuring the production of "outputs" without adequate investment in "inputs". It must also be recognised that in sustaining innovation there is strength in flexibility and choice. In this way we can support better and more equitable outcomes over time, engaging and retaining more talented people, for a far greater benefit. Adequate investment in resources, flexibility and opportunity should take the place of under-resourced measures that are narrowly focussed and poorly conceived.

The following submission offers a preliminary outline for adequate investment, innovation and reform in the areas of research education and research workforce planning for Australian universities, including recommendations for the Committee's consideration.

# Summary of Recommendations

# 1 Sustaining quality in innovation and research

**Relevant terms of reference:**

- The contribution of research training programs to Australia's competitiveness in the areas of science, research and innovation;

## 1.1 Research training and research education

The use of the term "research training" may be held by some to imply the purpose of a research degree is to prepare students for the possibility that they may one day do research. Use of the term in this sense also implies that postgraduates are somehow "researchers in training". Others (notably CAPA) have objected to the use of the term "research training" preferring the use of "research education" in its place.[3]

An authoritative response on this question can be found in the Federal Government's own definition for Research, based on that accepted by the OECD.[4] On this matter, Government could not be more clear. Not only do the activities of research postgraduates conform with the terms of the OECD definition, but the Government takes the additional step of making this explicit: "research activity also includes…activities of students undertaking postgraduate research courses".[5]

**Table 1: PhD Students' views of candidature[6]**

| View of candidature | Respondents (%) |
|---|---|
| Professional development | 44 |
| Education | 17 |
| Knowledge production | 16 |
| Personal development | 13 |
| **Training** | **6** |
| Not entered | 2 |
| Leisure | 1 |
| Other | 1 |
| Total | 100 |

[3] Council of Australian Postgraduate Associations (2003). Evaluation of the Knowledge and Innovation Reforms: A submission by the Council of Australian Postgraduate Associations. Ed. McKay, B. Council of Australian Postgraduate Associations, Carlton, Vic.

[4] A copy of this definition is attached as Appendix I.

[5] Department of Education Employment and Workplace Relations (DEEWR) (2008). Research. *User Guides and System Requirements: Glossary.* The Commonwealth of Australia. Accessed May 28, 2008: www.heimshelp.deewr.gov.au/2_Glossary/R/research.

[6] Since 2005, CAPA has been involved as a linkage partner in the ARC Discovery project *Reconceptualising the Doctoral Experience*. Preliminary results from this study were published just prior to the preparation of this submission, as presented at the 2008 *Quality in Postgraduate Research* (QPR) conference in Adelaide. Findings from Pearson et al therefore feature prominently in this submission, and CAPA would like to again acknowledge and thank the authors, Margot Pearson, Jim Cumming, Terry Evans, Peter Macauley and Kevin Ryland for their important contribution.

Another authoritative response can be found in a survey of candidates' own views. In their survey of PhD candidates, Pearson et al report only 6% of respondents view their research degree as "training", instead preferring "education", "knowledge production" and "professional development".[7]

Further, research training does not begin and end with a research degree. In many respects it begins in those activities that are assessed as pre-requisites for entry into a research degree, such as honours programs and coursework programs with a research component. In fact, significant efforts are directed toward research training as a pre-cursor to admission to a research program, a fact that has received relatively little attention to date.

For the sake of clarity of communication through the terms of reference, this submission will employ the terms "research training" and "research education" interchangeably, informed by the assumptions noted above.

**Recommendation 1:**

That the development of research education policy, programs and resources be informed by the fact that research postgraduates are themselves researchers, not simply researchers-in-training.

**Recommendation 2:**

Any comprehensive examination of research training should also take into consideration courses and programs outside of the RTS; in particular, honours programs and coursework postgraduate programs with a research component.

## 1.2 The contribution of postgraduates to Australia's research effort

It is important to recognise the central role research postgraduates play in sustaining the bulk of the research and innovation undertaken by our nation's universities.

In 1984 Margaret Powles estimated that postgraduates contributed 35-50 per cent of universities' research, and between 10.8-15.5 per cent of Australia's total research effort.[8] In 1997 Professor David Siddle reported estimates of 65-70% of university research being carried out by research postgraduates, and around 25-30% of university publications having at least one research postgraduate as an author.[9] In terms of human resources devoted to

[7] Ibid. (p.26)
[8] Powles, M. & Council of Australian Postgraduate Associations. (1984). *The role of postgraduates in Australian research.* Council of Australian Postgraduate Associations, Carlton, Vic.
[9] Siddle, D. (1997). Submission to the Committee conducting the Review of Higher Education Financing and Policy. Eds. On behalf of Professor Baverstock, P., Milne, T. & Praeger, C. Council of Deans and Directors of Graduate Education, Brisbane, QLD: www.dest.gov.au/archive/highered/hereview/submissions/submissions/D/DeansDirGradEd.

research and development, a 2004 *Australian Bureau of Statistics* report again shows research postgraduates sustaining the bulk of the contribution:

**Table 2: Human Resources devoted to research and development**

| | HUMAN RESOURCES DEVOTED TO R&D: by location—by type of resource : proportions | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **2004** | NSW | Vic. | Qld | SA | WA | Tas. | NT | ACT | Aust. |
| | % | % | % | % | % | % | % | % | % |
| Academic staff | 25 | 28.8 | 25.4 | 26 | 24.2 | 38.5 | 50.1 | 29.6 | 26.8 |
| Other staff | 15.2 | 10.5 | 19 | 12.2 | 24.7 | 8.9 | 5.8 | 25.3 | 16 |
| **Postgraduate students** | **59.9** | **60.7** | **55.7** | **61.7** | **51.2** | **52.6** | **44** | **45.1** | **57.2** |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

> *Australian higher education organisations devoted a total of 56,809 person years of effort to R&D in 2004, up 14.5% from 49,612 in 2002.* ***Most of the human resources devoted to R&D in 2004 were Postgraduate students (57.2%)*** *and Academic staff (26.8%), with the remainder being Other staff who directly supported R&D.*[10]

The fact is the majority of the research work is undertaken by postgraduates, and postgraduates are the key driver for innovation in Australia. It is simply nonsensical to regard them as "researchers in training". Research students are absolutely central to Australia's future competitiveness in science, research and innovation.

Recruiting, retaining and successfully graduating researchers through quality programs and support must therefore be of paramount priority in any efforts to improve Australia's competitiveness in science, research and innovation.

**Recommendation 3:**

Any moves to improve Australia's competitiveness in science, research and innovation must involve significant investment in, and positive reform of, research education and support for postgraduates.

[10] (Emphasis added) Australian Bureau of Statistics (2004). *Research and Experimental Development, Higher Education Organisations, Australia* (8111.0). Australian Bureau of Statistics.

# 2 Investing in research graduates

**Relevant terms of reference:**

- The adequacy of current research training schemes to support Australia's anticipated future requirements for tertiary-qualified professionals in a wide range of disciplines.

Investing in research graduates through research education begins with encouraging a broad range of candidates to consider a research degree, supporting them through to a successful completion, and providing opportunities both during and after their candidature allowing them to make the best possible contribution they can.

The benefits of investing in research graduates through research education include the development of research graduate skills, building links between universities and industry, and through building and strengthening international ties through research, among many others. All of these are made possible by the central "thesis" of research education – allowing talented individuals the opportunity to offer an original contribution to knowledge through research.

**Recommendation 4:**

That the development of research education policy, programs and resources be informed by the broader benefits of investing in research graduates beyond simply sustaining research output and meeting perceived labour market requirements.

## 2.1 The diversity among research postgraduates

To better understand the potential benefits through adequate investment in research education, it is important to first understand more about those at the centre of the question: research postgraduates themselves.

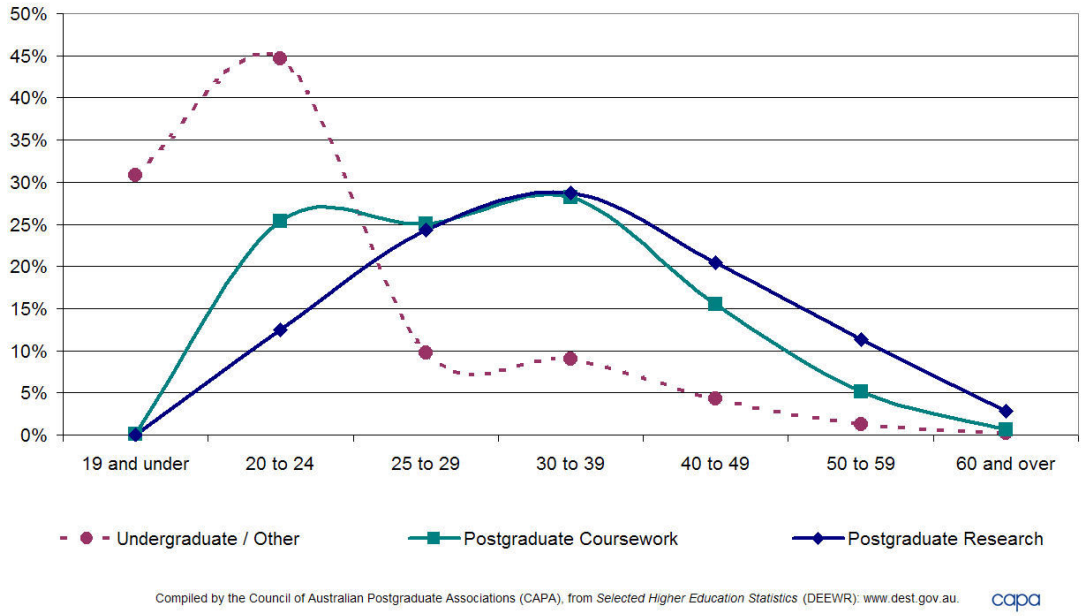
### 2.1.1 Distribution across institutions

Research postgraduates as a proportion of the general student population range from 15% at the Australian National University, down to around one percent or less at some of the newer universities. Research students as a proportion of the postgraduate population varies greatly by university, from 47% at the University of Western Australia, down to less than 5% at other universities. In 2006 there were also 183 research postgraduates at other self-accrediting institutions, and a further 58 at non self-accrediting providers.[11]

[11] Summary data, based on DEEWR's *2006 Selected Higher Education Statistics*, is included for the Committee's reference as Appendix III.

## 2.1.2 Age

**Figure 1: Students 2006: Proportion of Broad Level of Course by Age Group**




The popular ideal of a research postgraduate is typically of someone in their mid twenties, having followed directly on from undergraduate study after leaving high school. This ideal assumes they may never have participated full time in the workforce, and are pursuing a research degree largely for vocational purposes. This ideal also suggests that they are relatively free from the kind of carer commitments and financial obligations normally associated with older age groups.

In fact, research postgraduates demonstrate a broad distribution across all age groups, with the average age at around 35 years; 88% are over the age of 25, and 63% are over the age of 30.[12] Findings from the Pearson et al survey conform with other available data on age distribution by broad field of study. The average age for PhD candidates varies significantly by discipline, from 29 in the Natural and Physical Sciences to 45 years in Education.[13]

This broad distribution is just one reason why many of the assumptions associated with the "ideal" candidate simply don't apply. Their means of engaging in their course of study are likely to be different from other groups, as are their needs in terms of services and support.

## 2.1.3 Other features of a diverse population

Through the publication of *Selected Higher Education Statistics*, DEEWR do not make publicly available equity data by broad level of course. As of the time of this submission CAPA is preparing summary data, and will be publishing summary reports on the CAPA website as soon as they are available.

[12] Department of Education Employment and Workplace Relations (DEEWR) (2007b). *Students 2006 (full year), Selected Higher Education Statistics*. www.dest.gov.au.
[13] Additional age data is included for the Committee's reference in Appendix II.

Findings from Pearson et al indicate that standard indicators of diversity can do as much to mask the defining features of PhD students as they may to highlight them. Significant variability exists within descriptive categories, and these do not appear to be stable over time. This has led the authors to warn against assuming homogeneity in regard to the postgraduate population. The preliminary report concludes:

> *The implications are not to assume anything on the basis of enrolment status, disciplinary affiliation, gender, and so on, but be open to each candidate in their particular context negotiating their particular doctoral path. Issues as to institutional quality, curriculum and research education climate then need to be addressed flexibly with due recognition of the complexities of the '...multiple small worlds of research training with their specific research and research training practices'… and we would add the diversely different doctoral candidates within them.*[14]

In general, variability among research postgraduates occurs across a broad range of factors, including age, enrolment pattern, socio-economic status, employment history and so on. What is clear is this diversity varies significantly from the "ideal view" of what many still believe a PhD candidate should look like. The development and reform of funding programs and other measures in support of research education therefore needs to be informed by this diversity if they are to be effective. Universities must recognise the diversity among research postgraduates, and manage their planning of, and support for, dedicated services for postgraduates accordingly.

Research training measures that make the mistake of tailoring to an "ideal view" of research candidates significantly disadvantage those who do not conform to this view. This leads to attrition, longer completion times and, ultimately, exclusion. What's at stake here is more than simply a scheme compromised in regard to its equity obligations. There is a clear need for an adequate fit between a research training scheme and the profile of the researchers that scheme should be tailored to support. There is a further question as to how many talented and aspiring researchers we can afford to lose or exclude where their circumstances do not conform to the ideal view, given the looming generational change in the higher education workforce (addressed by this submission in detail in section 3).

**Recommendation 5:**

The Commonwealth must provide for the full range of potential candidates in development of, and support for, all programs in the area of research education.

[14] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au. (p.30)

**Recommendation 6:**

That the Commonwealth include reasonable standards for dedicated services and representation specific to postgraduate students among requirements of institutions in compact funding arrangements.

## 2.2 The development of research graduate skills

As reflected in the terms of reference for this Inquiry, and by the objectives of the current Research Training Scheme, one of the purposes of research training is *supporting the requirements for tertiary qualified professionals in a range of fields*. A recent Group of Eight discussion paper highlights that 72.6% of research graduates enter non-university occupations.[15] Where research graduates return to industry, across a broad range of fields, they take with them a unique range of skills developed through the course of a research degree. These are sometimes referred to as "generic skills".

**Table 3: PhD student perceptions of capability transfer[16]**

| Capability/capability transfer | Employment to Doctorate[1] | Doctorate to Employment[2] | Difference in Transfer |
|---|---|---|---|
| Critical thinking | 65 | 54 | 11 |
| Information & communication technology | 63 | 46 | 17 |
| Time management | 61 | 43 | 18 |
| Problem solving | 57 | 53 | 4 |
| Working in teams | 47 | 23 | 24 |
| Writing | 47 | 55 | -8 |
| Project management | 45 | 33 | 12 |
| Networking | 42 | 28 | 14 |
| Library | 26 | 51 | -26 |
| Occupational health & safety | 25 | 12 | 13 |
| Ethical | 19 | 29 | -10 |
| Other | 4 | 6 | -2 |

[Note:
[1] N=4,432 (82 per cent of total survey population)
[2] N=4,632 (86 per cent of total survey population)]

Engagement between industry and research can also work in the reverse. That is, many research postgraduates come to a research degree with significant industry experience, and a broad range of competencies (examples appear in the table above). Many postgraduates are already brimming with "work ready" skills, and are often returning to study in order to build on their skills and experience through making an original contribution to their field.

It is important to acknowledge therefore that it is inappropriate to consider the issue of "generic skills" to be a narrowly vocational one. Not all postgraduates come to a research degree effectively as a "clean slate" when it comes to

[15] The Group of Eight (2007). *Researcher supply and demand*. The Group of Eight, Canberra. November.
[16] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au.

workplace skills and experience, but all seek to build on their existing skills through research in a way which is potentially unique for each candidate.

Mandating a narrow set of desired generic skills outcomes through research training underestimates the capacity for innovation among both candidates and industry. It would be unwise to seek to second-guess either through narrowly focussed and inflexible policy measures.

Efforts to promote and support the uptake of "generic skills" therefore should be characterised by quality, flexibility and choice, as opposed to compulsory requirements and a generic and narrowly vocational view of the "transferable" outcomes of research education.

**Recommendation 7:**

Any features of research education programs relevant to "generic skills" training should be characterised by quality, flexibility and choice.

## 2.3 Opportunities for engagement in field of research

Significant benefits are available for both research postgraduates and employers where candidates are allowed the flexibility to directly engage in their field of research during the course of their degree. Such opportunities do not need to be mandated as a compulsory program requirement. Both employers and postgraduates yield the greatest benefit where candidates are able to directly engage in their field of research as equal partners, as opposed to being considered merely as "interns" or as a source of cheap labour.

A combination of incentives and flexibility are the best means of creating opportunities for postgraduates in this area.

**Recommendation 8:**

That Commonwealth research education initiatives include both flexibility and resources to support research candidates directly engaging as equal partners in their field of research.

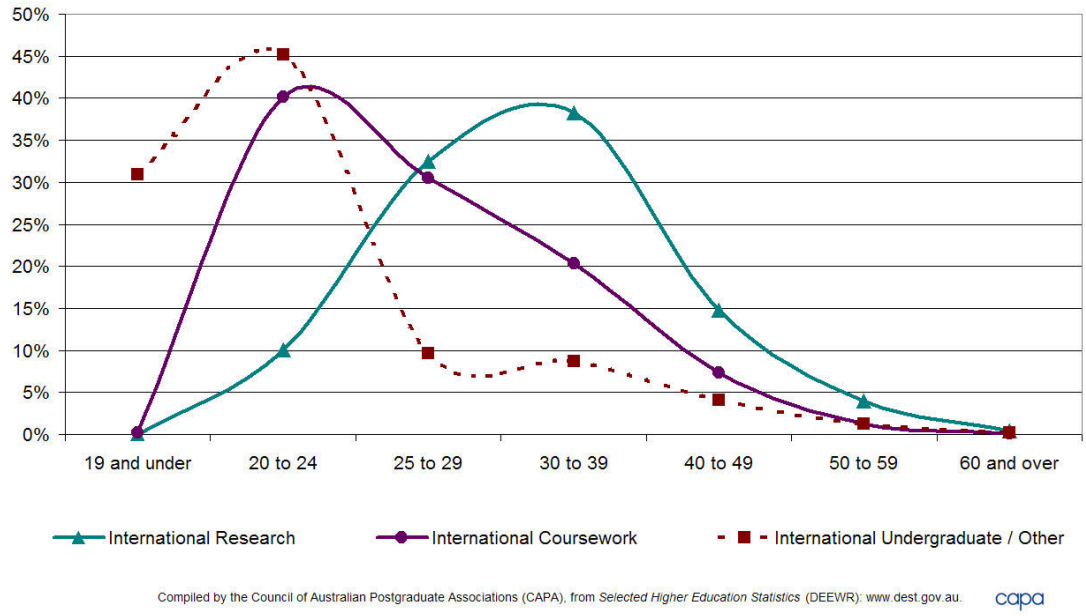
## 2.4 Building international links

In 2006 there were 8,981 international research students, with 7,658 enrolled in PhDs and 1,323 in research masters. International students make up 17% of the research student population overall, comprising 51% of research students at Bond University down to 5% at the Australian Catholic University.[17]

[17] Summary data, based on DEEWR's *2006 Selected Higher Education Statistics*, is included for the Committees reference as Appendix III.

As reflected in figure 2 below, international research students are likely to come to study in Australia later in life. Many study here while also supporting dependents. This certainly has implications for their expectations and their needs while here, and these should certainly be reflected in the programs and support services available to them.

**Figure 2: 2006 International Students: Proportion of Broad Level of Course by Age Group**




International research students make a significant contribution to the academic community of their host institution, yielding many benefits and enhancing the local research environment. Many lasting friendships are forged and a significant contribution is made to the development of international ties in research and innovation.

For Australian universities to be attractive for international students, they must compete on quality. Not just in terms of the demonstrable quality research outcomes or on perceptions of marketable prestige, but also, importantly, on the quality of the student experience. In seeking to attract international research postgraduates, universities and government must seek to avoid the worst excesses of previous efforts in developing the "market" for international coursework postgraduates.[18,19]

International research students are attracted to quality facilities and supervision. They are also attracted to an academic destination with a collegial atmosphere, one where they feel safe, and one with adequate support services in place. Activities to promote social networks along with other services are also critical in attracting international students and

[18] Rood, D. (2006). 'Cash cow' students take stand against uni. *The Age.* Melbourne, Vic, March 14: www.theage.com.au/news/national/cash-cow-students-take-a-brief-stand-against-uni/2006/03/13/1142098405192.
[19] Hare, J. (2007). CQU seeks to end partnership. *Campus Review,* Vol.17; No. 48**,** p.5.

supporting them while here, and this is especially the case for those interested in pursuing a research degree.[20]

International postgraduates should be allowed greater flexibility and opportunity both during and after their course of study. One simple way of achieving significant improvements in this area is to reform the restrictive visa conditions that severely constrain opportunities for international postgraduates on completion of their degree. Australia has the opportunity to be a leader internationally in providing a safe, welcoming and vibrant research culture for the world's best aspiring researchers. This can only be achieved through genuine investment in quality, and through ensuring flexibility, opportunity and a genuine approach to resources and support for international postgraduate students.

**Recommendation 9:**

That visa conditions for international postgraduates be amended to allow greater flexibility, especially in cases where they conclude a course of study in Australia.

**Recommendation 10:**

That efforts to recruit international research student be matched with adequate investment in quality facilities, supervision, and support services.

**Recommendation 11:**

That efforts to recruit international research students be matched by measures to ensure a safe, welcoming and collegial atmosphere while studying in Australia.

[20] Guilfoyle, A. M. (2005). Developing Essential Networks as a Source of Community for International Postgraduate Students. Presented at *Australian Universities Quality Forum.* Sydney: www.auqa.edu.au/auqf/2005/program/papers/session_b5.pdf.

# 3 Providing for the future of higher education in Australia

**Relevant terms of reference:**

- Factors for graduates that determine pursuit of a career in research;
- Opportunities for career advancement for research graduates and staff;
- Factors determining pursuit of research opportunities overseas;
- Australia's ability to compete internationally for high quality researchers;
- Whether Australia's academic workforce is ageing, and the impact this may have on Australia's research capacity.

International comparisons reveal Australia is lagging behind in PhD completions, with 2.3 completed PhDs per 100 university graduates, compared with 3.9 in Canada and 11.2 in Germany.[21] Of greater concern are trends indicating an imminent shortfall in the number of graduates eligible to move into academic positions as growing numbers in the academic workforce approach retirement age. Projections show an average shortfall in academic workforce requirements of 47% per annum over the next ten years.[22]

Many in higher education are increasingly aware that the most significant challenge facing universities over the next 10 years will be that of *generational change in the higher education workforce*:

> *Australian universities over the next decade will be faced by their largest recruitment task for three decades. This task will have to be addressed in a context of the most competitive international labour market for the skilled academics, scientists, technologists and researchers that has ever existed. If Australian universities are to maintain their current levels of excellence, let alone enhance them, a range of innovative human resource strategies will need to be initiated.*[23]

CAPA contends that this is not a crisis that will occur in 10 years, nor in the next 7 or in the next 5. It is a crisis that is happening among research candidates and recent research graduates right now. It is imperative that we start building a future for our universities among current and prospective research candidates immediately, through improved funding, greater flexibility and better support. If we hope to allow our universities the chance of being world leading institutions in the future, we must begin now by investing in the next generation of teachers and researchers.

[21] The Group of Eight (2007). *Researcher supply and demand*. The Group of Eight, Canberra. November.
[22] Ibid.
[23] Hugo, G. (2008). The Demographic Outlook for Australian Universities' Academic Staff. Presented at *The PhD in the Humanities, Arts and Social Sciences.* University of New South Wales, Sydney, Council for the Humanities and Social Sciences (CHASS).

## 3.1 Immediate priorities for current and prospective research students

> *…there has been a 'lost generation' of potential university academics, those currently aged in their 20s and 30s….There is no extant research as to why this younger generation of academics have been lost and the extent to which it has been due to factors such as a decline of attractiveness of academic positions, salary, conditions, etc. and the extent to which alternative sectors have been more attractive.*[24]

CAPA contends that the story of this "lost generation" can be found among talented candidates who do not get to complete their degree, and among recent graduates who manage to complete only to find a poverty of opportunity at the end.

The emerging crisis of this "lost generation" is one gaining increasing recognition at the moment, but is one that has in fact been in the making for some time. The response needs to amount to more than simply making research degrees more attractive to qualified candidates. It means investing in adequate resources, support and opportunity to successfully complete their degree. This means retaining them wherever possible through to the completion of their degree, and graduating them with the kind of opportunities that clearly demonstrate a research degree as a worthwhile activity.

**Recommendation 12:**

Efforts to attract potential candidates to research degrees must be matched with adequate measures to retain them as candidates, and support for them to successfully complete their degree.

## 3.2 Casuals

**Table 4: Post-doctoral plans**[25]

| Post-doctoral Plans | Main Occupation | |
|---|---|---|
| | Not academic (%) N=3765 | Academic (%) N=1609 |
| Non-profit/community sector | 6 | 3 |
| Not sure | 27 | 14 |
| Other | 3 | 2 |
| Private sector | 16 | 10 |
| Public sector | 18 | 9 |
| University | 30 | 61 |

[24] Ibid.

[25] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au. (p.27)

Opportunities for postgraduates to gain teaching experience during candidature are both valuable and rewarding. Survey findings by Pearson et al suggest that doctoral candidates are around 30% more likely to want to pursue an academic career on completion if they have the opportunity to undertake paid academic work during the course of their degree (see table 6 above).

Paid academic work can make a vital difference for postgraduates who are struggling financially, and can help prevent them from dropping out from their degree, for a while. Casual teaching can also be a trap, however, as casuals can become financially dependent on something that, despite being one of the most rewarding and enjoyable parts of being a postgraduate, ultimately becomes compromising of their ability to pursue their own research and successfully complete their degree. This is especially the case toward the end of candidature when scholarships have run out and students are totally dependent on casual teaching for survival.

**Table 5: Paid academic activity by scholarship status[26]**

| Paid academic activity undertaken | Hold scholarship (%) N = 3662 | No scholarship (%) N = 1597 |
|---|---|---|
| **Tutoring / demonstrating** | 59 | 56 |
| **Marking** | 48 | 51 |
| **Lecturing** | 23 | 39 |
| **Research assistance** | 30 | 31 |

The biggest problem with casual teaching is the workload required to do the job properly is normally way in excess of the hours that are actually paid. Stories of working day and night for the equivalent of $5 per hour are common. Casuals then have to work many hours before making a dent in their financial circumstances.

**Table 6: Time spend on doctoral / non-doctoral activities undertaken in a week[27]**

| Activities / % spending given hours | < 20 | 21- 40 | 41+ | Number of respondents undertaking activity |
|---|---|---|---|---|
| **Doctoral** | 34 | 36 | 24 | 5103 |
| **Paid non-academic employment** | 21 | 9 | 5 | 1940 |
| **Paid academic work** | 23 | 5 | 2 | 1594 |
| **Unpaid academic employment** | 18 | 1 | < | 976 |
| **Family and/or domestic activities** | 75 | 12 | 7 | 5078 |
| **Leisure** | 86 | 5 | 2 | 4995 |
| **Voluntary** | 31 | < | < | 1691 |

Instances of postgraduates casually employed at one, two or three institutions in any given year (or even concurrently) are common. There are

[26] Ibid. (p.18)
[27] Ibid.

unfortunately many instances of research graduates languishing amid a "pool" of casual employees for many years after completing their degree.

The current working environment for casual staff is effectively engineered against both quality and equity. Both teacher and student are being severely disadvantaged. It should not be an act of charity just to do your job properly. The solution is simple: casual employees should be paid for the work that they do.[28] They should be able to do the best job they can for their students without digging deeper and deeper into their own pockets to do so. If casuals didn't care about quality in teaching then there would be no problem – they would simply run poorly prepared sessions and offer only arbitrary assessment, with no feedback. Casual teachers would never settle for that, and Government, universities and students shouldn't either.

CAPA supports calls by the National Tertiary Education Union (NTEU) for the urgent reform of pay and conditions for university employed casual staff.

**Recommendation 13:**

Urgent reform of pay and conditions for all casually employed university staff.

## 3.3 The poverty of opportunity for research graduates

New thinking and innovative programs are required to stem the flow of talented graduates who become disillusioned as to their prospects of an academic career. The poverty of opportunity for recent graduates has potentially devastating consequences for Australian higher education in the longer term.

In the 2008 Federal Budget the Government announced the Future Fellowships scheme. The scheme provides 200 new fellowships for mid-career researchers each year through to 2013.[29] The scheme is a welcome first step in addressing the need for more opportunities for mid-career researchers (likely to be defined under the scheme as those 5-15 years out from completing a PhD).[30] Although a significant first step in addressing the urgent need for more opportunities for mid-career researchers, this initiative will not address the poverty of opportunity for those who have recently completed their degree and still have aspirations for an academic career.

Major investment is needed in support of initiatives aimed at recruitment, retention, resources and support to ensure research graduates have not only the skills to pursue a rewarding career in teaching and research, but also have the opportunity to do so. Many of these coined by Professor Hugo as

[28] Palmer, N. (2007a). A Casuals Affair. *Campus Review,* Vol 17, No. 49.
[29] Senator the Hon Kim Carr (2008a). *Media Release: Future Fellowships for Outstanding Mid-Career Researchers*. Department of Innovation, Industry, Science and Research. May 13: http://minister.industry.gov.au/senatorthehonkimcarr/pages/futurefellowships.aspx.
[30] Australian Research Council & Senator the Hon Kim Carr (2008). *Future Fellowships : Consultation Paper*. Australian Research Council, Canberra, Act: www.arc.gov.au/ncgp/futurefel.

the “lost generation” are lost at the point where they have persevered despite adversity to complete their degree to discover only a poverty of opportunities for early career researchers at the end of it.

**Recommendation 14:**

Urgent measures be introduced to provide employment opportunities for recent research graduates.

Failing to adequately support the next generation of teachers and researchers means failing to provide in any real way for Australia’s future research and innovation capacity. A lack of attention to these issues to date has already set up a decline that will now be very difficult to reverse.[31]

Findings and recommendations from this Inquiry will have profound implications for the future of higher education in Australia. They will need to address not only recommendations to improve our research training and research workforce planning efforts for the future, they will also need to address the aims of research education in the current context, in the context of the trends we can already see emerging in the coming decade, and those we are yet to anticipate.

The preceding sections in this submission have addressed some of the broad issues central to the appropriate aims of research education. The following sections will address specific issues relevant to the terms of reference, include an outline of some of the limitations of the current research training scheme, and preliminary recommendations on opportunities for improvement.

[31] Palmer, N. (2007b). Media Release: Research Students Key to Future. Council of Australian Postgraduate Associations, Carlton, Vic: www.capa.edu.au.

# 4 The current Research Training Scheme

**Relevant terms of reference:**

- The effectiveness of current Commonwealth research training schemes

The current Research Training Scheme (RTS) had its origins in the 1999 *Knowledge and Innovation* "White Paper".[32] CAPA expressed reservations about key elements of the scheme from the beginning:

> *…the core problem with the White Paper is the insistence on seeing research education as 'research training'. The poverty of this concept in grappling with the issues reduces the Government's policy to mere concern for student throughput. 'Training' does not capture the complexity of nurturing knowledges and practices that underpin and enable innovation.*[33]

## 4.1 Strengths of the current Research Training Scheme

### 4.1.1 Fee exemption

Currently research students with an RTS place are exempt from paying fees. CAPA commends this, and recommends preserving the current arrangements in regard to fees.

**Recommendation 15:**

That the existing arrangements in regard to exempting RHD students from fees remain in place.

### 4.1.2 Valuing completions and publications

The funding formula for the RTS takes into account HDR completions (50%), research income (40%) and research publications (10%).[34]

Despite some of the negative incentives promoted under the RTS, the inclusion of postgraduate completions and publications as key indicators employed in determining funding allocation has focussed attention on the "value" of both.

Supporting candidates through to the successful completion of their degree is in the best interests of all concerned, as is encouraging them to develop their skills during candidature through publication.

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[32] Kemp The Hon. Dr D. A. MP (1999). *Knowledge and Innovation: A policy statement on research and research training*, Commonwealth of Australia. Canberra, ACT.

[33] Smith, B. (2000). Media Release: Postgraduate Research - The Missing Link in the Innovation Equation Council of Australian Postgraduate Associations, Carlton, VIC: www.capa.edu.au.

[34] Department of Education Employment and Workplace Relations (DEEWR) Research Blocks Grants - Calculation Methodology. Accessed May 28, 2008: www.dest.gov.au/sectors/research_sector/programmes_funding/general_funding/rbgrants/calculation_methodology.

**Recommendation 16:**

That Commonwealth research education initiatives continue to recognise the value of postgraduate degree completions, and postgraduate contributions to research through publication.

### 4.1.3 Improvements in measurement and reporting

More stringent reporting requirements and the emphasis on efficiency promoted under the current RTS has led to improved reporting and greater transparency in some areas. Improvements in the quality and availability of data on research education have also been made. On both counts progress under the RTS has been notable, but room for further improvement remains.

**Recommendation 17:**

That research education programs maintain and improve high standards of transparency, including promoting public availability of relevant information.

CAPA believes the Commonwealth, taxpayers and students are entitled to high standards of transparency in the allocation of research funding. Currently the majority of Commonwealth funding for research is via Research Infrastructure Block Grants (RIBG), into which both the RTS and Institutional Grants Scheme (IGS) feed. All parties would benefit from being assured that funding earmarked for research infrastructure was in fact being used effectively for those ends.

**Recommendation 18:**

That improved transparency and reporting on the distribution of research funding within institutions be included as a feature of any research funding reform.

### 4.1.4 Graduate schools

Many universities promote the fact that they offer postgraduate research programs with the support of a dedicated school of graduate studies. Many schools of graduate studies and their Deans have supported significant improvements in the quality of research education at their institutions.

Sadly, some institutions appear to have a graduate school in name only. Some have preferred to conceive graduate schools solely as a means of administering bureaucratic control informed by a punitive approach to research education, and as a vehicle for centralising functions from faculties and departments to save on costs. Often Deans of graduate studies themselves are poorly remunerated for their efforts. Many continue in their role largely on their strength of commitment to their students, and to quality in research education.

CAPA supports the continued growth of schools of graduate studies as a positive means of supporting and promoting both quality and equity in postgraduate education, in partnership with students and student organisations.

To this end, graduate schools need to be adequately resourced. CAPA also recommends they should include in their brief the management and support of coursework postgraduate and honours degree programs and candidates, in recognition of the significant contribution these programs also make to research education.

**Recommendation 19:**

That graduate schools be supported as a positive means of ensuring quality in postgraduate education, and should be adequately funded to do so.

**Recommendation 20:**

That graduate schools include among their responsibilities the administration of coursework postgraduate and honours degrees, in recognition of the significant research training efforts in those programs.

### 4.1.5 Improvements in the quality of supervision

Most universities now offer professional development workshops, inductions and other programs for supervisors. Supervisor training has now been made compulsory at many institutions. A national consortium now also exists for supervisor training and resource sharing.[35]

Although these efforts have no doubt yielded a range of benefits, CAPA is concerned that an over-emphasis on supervisor training alone can imply that supervisors themselves carry all of the responsibility for improvements in research education. Clearly quality supervision is a central issue, however there is also a tendency for institutions to rely on supervisor training alone for improvements in research education, as it conveniently comes at minimal cost. CAPA believes adequately resourced supervisor training should not exist in isolation from a broader range of development and support measures for both supervisors and students.

**Recommendation 21:**

Efforts to improve quality in supervision should be matched by adequate resources and support for both supervisors and students.

[35] fIRST Consortium (2008). for Improving Research Supervision and Training. Accessed May 28, 2008: www.first.edu.au.

## 4.2 Limitations of the current Research Training Scheme

> *…elements of the Scheme place significant pressure on universities to improve the timely completion of their research students. Under the Scheme, universities do not receive funding for students once they have exceeded the maximum time limits of 4 years for a doctoral degree and 2 years for a Research Masters degree.*[36]

In responding to the introduction of the Research Training Scheme (RTS) universities have implemented a range of strategies in order to improve the proportion of enrolled postgraduate research students who complete their degrees (completion rates), and to shorten the amount of time they take to do so (completion times). As noted above, this has had some positive benefits, however overall it has amounted to a scheme which fosters risk-averse behaviour, and a view that is inordinately focussed on the indicators of performance at the expense of the broader aims of research education.

### 4.2.1 The risk averse culture of the RTS

> *The RTS allocates postgraduate research places to universities using a formula which rewards institutions with high completion rates. That might sound like a good idea, but it's a simplistic practice which encourages universities to enrol 'safe' students….That means saying 'no' to students with speculative projects, students with the kind of creative ideas we should be encouraging. It also means saying 'no' to students with disabilities or students who might need to take longer because of their personal circumstances.*[37]

Innovation involves taking risks. The research training scheme, at its worst, has led to a form of narrow managerialism in research training, promoting a risk-averse culture in the recruitment and management of research students. It has also created what could be described as “perverse incentives” in the management of RHD students which arguably run contra to the aims of the scheme.

#### *4.2.1.1 Projects*

> *…research is inherently risky and arguably the best research is the most ambitious and therefore the most risky. The research training scheme may be encouraging cautious and unambitious research projects and therefore possibly reducing the number of projects that produce results of great significance*.[38]

One of the challenges of managing research is to reconcile the aims of the project with available resources (including time available for completing the research). With the PhD in particular, historically the most salient features have been the aims of the research. Under the RTS, the emphasis has become the need to complete the research within the constraints determined

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[36] Pearse, H. (2002). Implementing the Research Training Scheme: The consequences for postgraduate research students. Ed. Ridges, L. Council of Australian Postgraduate Associations, Carlton, Vic.: www.capa.edu.au. (p.3)
[37] Horton, S. (2004). *Media Release: Labor's plan to scrap RTS shows some promise: CAPA*. Council of Australian Postgraduate Associations, Carlton, Vic: www.capa.edu.au.
[38] Moodie, G. (2002). Dangers in rewarding the cautious. *The Australian.* 15 January, p 24.

by the scheme. Although taking on manageable research projects is in the best interests of candidates and institutions alike, there is an over-arching risk that the increasing emphasis on manageability over aims may eventually come at the expense of quality, and work against innovation over time.

**Recommendation 22:**

That any reform of research education ensures adequate flexibility and support for candidates to pursue the aims appropriate to their research wherever possible.

#### *4.2.1.2 Candidates*

When reviewing the effect of the implementation of the Research Training Scheme on postgraduate students in 2002, and again in 2003, CAPA was concerned to find an increase in "risk averse" behaviour on the part of universities in regard to candidates.[39,40] The clearest examples of this were in universities responding to the emphasis on completions under the RTS by attempting to reduce the proportion of their research students who are enrolled part time. This decision tended to be based on internal surveys by the universities which revealed that part time candidates were less likely to complete their degrees than full time candidates. Such an approach has serious equity implications. For some, undertaking a research degree is only possible on a part time basis. This may be because of the need to care for children or an elderly parent, a disability, or the need to support dependents. With an average age around 35 years, it is likely that postgraduate students will need to balance these competing commitments with the demands of completing their degree. Further restricting part time enrolment will continue to exclude capable students from research degrees for non-academic reasons.

**Recommendation 23:**

That the Commonwealth ensure research education initiatives encourage participation from among the broadest possible range of eligible candidates.

#### *4.2.1.3 The risk of overspecialisation and disciplinary bias*

*The focus on disciplines with commercialisation potential ignores the important contribution that university-based research in the humanities and social sciences makes to an understanding of culture and our society…Research in these areas is essential if we are to respond to the*

[39] Pearse, H. (2002). *Implementing the Research Training Scheme: The consequences for postgraduate research students*. Ed. Ridges, L. Council of Australian Postgraduate Associations, Carlton, Vic.: www.capa.edu.au.
[40] Bexley, E. (2003). *Response to the ALP Policy Discussion Paper 'Research: Engine Room of the Nation*. Ed. McKay, B. Council of Australian Postgraduate Associations, Carlton, Vic: www.capa.edu.au.

*many social and economic challenges that Australians will face in the future*.[41]

There is a very real risk that some of the incentives created under the RTS will have a significant negative impact on broad scope of innovation over time.

*If a department with a low number of student completions has fewer places allocated to it, then with fewer students in the department the number of student completions will fall even further, and fewer places will be allocated in future. Without any compensation for this depletion of student places, over time research places will become heavily concentrated within certain university departments at the expense of others*.[42]

In response to the implementation of the RTS, universities have introduced a range of strategies to develop concentrations of HDR students and other resources in areas of research strength. An undue concern for supporting only "safe bets" in research inevitably comes at the expense of recognition and support for outstanding individual researchers, support for new and emerging areas of innovation, and the stable development of new talent across a broad range of disciplines over time.

**Recommendation 24:**

That the Commonwealth avoid creating negative incentives for the uneven allocation of resources across disciplines through research funding programs.

**Recommendation 25:**

That the Commonwealth avoid creating negative incentives for the concentration of resources in perceived "areas of research strength" through research funding programs, at the expense of opportunities for innovation across a broad range of research areas.

#### *4.2.1.4 Discouraging postgraduates from engaging in academic development activities*

Candidates need the flexibility to pursue academic development activities during their degree, including publications, conference papers, engagement in collaborative research projects, and also the opportunity to directly engage in their field of research. Such activities should be regarded as strengths to be developed during candidature, not as risk factors or liabilities that simply get in the way of a timely completion, as is encouraged under the existing scheme.

[41] Byron, J. (2001). Media Release: Humanities and Social Sciences help us understand innovation. Council of Australian Postgraduate Associations, Carlton, Vic: www.capa.edu.au.
[42] Pearse, H. (2002). Implementing the Research Training Scheme: The consequences for postgraduate research students. Ed. Ridges, L. Council of Australian Postgraduate Associations, Carlton, Vic.: www.capa.edu.au. (p.8)

Undue pressure for shorter completion times has a deleterious effect on the capacity for our research training efforts to contribute effectively to Australia's competitiveness in science, research and innovation. Australian degrees will only remain competitive if candidates have the ability to be well-engaged in their field of research at the point of graduation. The ability to engage in academic and professional development activities during candidature is therefore critical.

**Recommendation 26:**

Positive incentives should be in place to encourage postgraduate engagement in academic and professional development activities during candidature, and incentives for academic units to provide mentoring and support for postgraduates to engage in these activities, as opposed to discouraging them from doing so.

#### *4.2.1.5 Punitive constraints in place of resources and support*

> *…universities seem to be increasingly reluctant to grant students suspension of candidature, leave of absence or conversion from full time to part time enrolment, due to concern that this may jeopardise the likelihood of a student completing their degree. However, flexibility in university policy is important to enable students with competing demands on their time, such as family responsibilities or the need to financially support themselves and their dependents, to continue their studies rather than be forced to withdraw from their degree.*[43]

Among the negative impacts of the RTS have been instances of tightening of constraints on conditions of scholarships and of candidature. In many cases these have amounted to a punitive approach to managing RHD students, in place of resources and support to assist students in successfully completing their degree.

One of the worst examples of this can be found in the levying of fees for overtime students. The conditions the Commonwealth place on universities in instances where candidates exceed their RTS entitlement are in regard to reporting only, they do not compel institutions to levy fees.[44] At some institutions, students who exceed their RTS entitlement receive a bill for fees (or receive threats to that effect): effectively, these students are being *fined* for taking longer than 4 years to complete their degree. Students toward the end of their degree are close to financial exhaustion. Effectively being fined, or being threatened with an invoice for fees, will inevitably force them to drop out. CAPA is also aware of instances where institutions mislead candidates by asserting that fees for "overtime" students are mandated by the Commonwealth. This is simply not the case. In an environment where research graduates are said to be highly valued, such an approach is simply

[43] Ibid., pp.11-12.
[44] Department of Education Employment and Workplace Relations (DEEWR) (2007a). *Part B of Annexure: Conditions of Grants (Research Training Scheme)*. In Grants made under part 2-3 (items 7 and 8 of the table in subsection 41-10(1) of the higher education support act, Commonwealth of Australia.

incomprehensible. The introduction of a "penalty" fee at this most critical point in candidature is neither in the interest of the university nor the student, and demonstrates very poor conduct on the part of some institutions in supporting research postgraduates.

**Recommendation 27:**

That efforts to support improvements in research postgraduate completion rates and completion times be characterised by positive initiatives in the form of resources and support, as opposed to punitive measures which inevitably disadvantage both universities and students.

### 4.2.2 Other research education and research funding issues

#### *4.2.2.1 Number of places*

CAPA supports calls for an increase in the number of RHD places commensurate with the need to sustain research education, research capacity and research workforce renewal.

**Recommendation 28:**

That the number of places be increased commensurate with the need to maintain and renew Australia's research capacity and anticipated research workforce needs in the future.

The current environment provides the opportunity to be innovative about how we might adequately resource research education, employ simple solutions for significant positive benefits in both quality and equity, and provide for significantly greater security for Australian higher education into the future.

If we do nothing to change the way research students are supported we risk forfeiting a culture of excellence to a culture of compliance. Maintaining the pressure for shorter completion times and simply putting more hurdles in the way of students merely forces them to compromise on their aims for research, and risks forcing them out of the system all together. Changing for the better means adopting a serious approach to resources and support for research students through their candidature, and supporting them to better outcomes.

# 5 Opportunities for improvement

**Relevant terms of reference:**

- Adequacy of training and support (including income support) available to research graduates in Australia

## 5.1 Scholarships

The aims of research stipends in general, and the Australian Postgraduate Award (APA) in particular, are to assist in making research degrees an attractive proposition for talented prospective researchers, and to offer them an adequate means of financial support allowing them to focus on research.

**Table 7: Scholarship holding by broad field of study[45]**

| Broad Fields Of Study/Type of Scholarship | APA/APAI/ IPRS | University | Other | No scholarship |
|---|---|---|---|---|
| Agriculture, Environmental and Related Studies | 37 | 23 | 21 | 19 |
| Architecture and Building | 38 | 32 | 5 | 24 |
| Creative Arts | 42 | 16 | 7 | 35 |
| Education | 18 | 18 | 7 | 54 |
| Engineering and Related Technologies | 43 | 25 | 18 | 13 |
| Health | 27 | 19 | 22 | 31 |
| Information Technology | 24 | 32 | 9 | 34 |
| Management and Commerce | 21 | 25 | 13 | 42 |
| Natural and Physical Sciences | 40 | 31 | 14 | 14 |
| Society and Culture | 37 | 19 | 5 | 38 |

Some candidates are in receipt of a standard APA with a stipend top-up, while others benefit from stipends attached to specific research projects funded at the industry (or APAI) rate (which works out to around 30% more). Postgraduates in receipt of one of these awards have a better chance of being able to focus on their research. Research scholarships, such as the APA, have a specific purpose, and need to be effective on these terms: they need to provide an adequate means by which to live in order to allow postgraduates to focus on research, and to support them through to the successful completion of their degree.

In the 2008 Federal Budget the Government committed to increasing the number of Australian Postgraduate Awards for commencing research students to double the existing number by 2012.[46] Beyond this, other improvements to the APA are still urgently needed.

[45] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au.

[46] Senator the Hon Kim Carr (2008b). *Media Release: Government to Give More Postgraduates A Head Start*. Department of Innovation, Industry, Science and Research:

The aims of the Australian Postgraduate Award are to attract talented candidates to pursue a research degree, and offer them an adequate living stipend in support of them doing so. The fact is that the APA is no longer fit to meet its aims. It no longer represents a competitive incentive for aspiring researchers, and it is certainly failing us as an adequate means of support, especially for those living and studying in major capital cities. The APA has not kept pace with living costs, and is a poor fit for the reality of what it takes to complete a PhD.

The need for reform is urgent. Opportunities for significant improvements, which for the current government will be both affordable and manageable, are outlined below.

### 5.1.1 Duration

In 2005 the Senate of the Parliament of Australia conducted a comprehensive inquiry into student income support.[47] On the matter of the effectiveness of the Australian Postgraduate Award scheme, the committee heard the following evidence:

> *…postgraduate associations which provided evidence to this inquiry agreed that the most glaring weakness in the current financial support for postgraduate students is the gap between the average time a student takes to complete a postgraduate degree and the duration of an Australian Postgraduate Award (APA) scholarship…Survey responses presented as evidence to this inquiry by CAPA show that the current funding arrangements for APA scholarships hinder, rather than encourage, timely completion of courses. When scholarship funding ceases, some students take leave to seek employment while others fail to complete their course*.[48]

Under the RTS the candidature time for a research doctorate is four years' full-time equivalent study, and two years' full-time equivalent study for a masters. Currently the APA is funded for Masters degrees to the maximum duration of candidature, however this is not the case for Doctoral studies. This means many PhD students find themselves with no access to any financial support at all during the final and most crucial stages of their degree. Many students overcome this financial hardship by taking on extra paid work, often in the form of casual employment with their institution. It is difficult under these conditions for students to dedicate suitable time to completing their studies. The mismatch between APA duration and PhD candidature therefore jeopardises the goal of achieving timely completions. The duration of three years plus limited extension for full-time doctoral students underestimates the time required to complete a quality PhD.

Although PhD students have four years to complete their degree (and evidence suggests this still equates with average candidature time to

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http://minister.industry.gov.au/senatorthehonkimcarr/pages/governmenttogivemorepostgraduatesaheadstart.aspx.

[47] Senate Employment Workplace Relations and Education References Committee (2005). *Student Income Support*, Commonwealth of Australia, Canberra.

[48] The Senate Employment Workplace Relations and Education References Committee (2005). *Student Income Support*, Commonwealth of Australia, Canberra. (p.40)

completion).[49] The APA only lasts for the first three. A further problem exists with the APA scheme where students apply for a six month extension. This option is often referred to as if it were a standard part of the scheme, however many students are disappointed to find they are denied in their application for additional APA funding. Many students plan on getting the full extension after three years only to find that their university declines their application, or agrees to funding only a fraction of that amount of time.

**Recommendation 29:**

That the duration of all Commonwealth Awards with stipends for PhD students be increased to at least 4 years (full time equivalent) with the option of an extension of up to an additional 6 months.

**Recommendation 30:**

That guidelines for the allocation of Commonwealth Awards with stipends be reviewed, and dis-incentives for institutions to approve extensions of awards up to a maximum of 6 months be removed.

### 5.1.2 Rate

**Figure 3:**

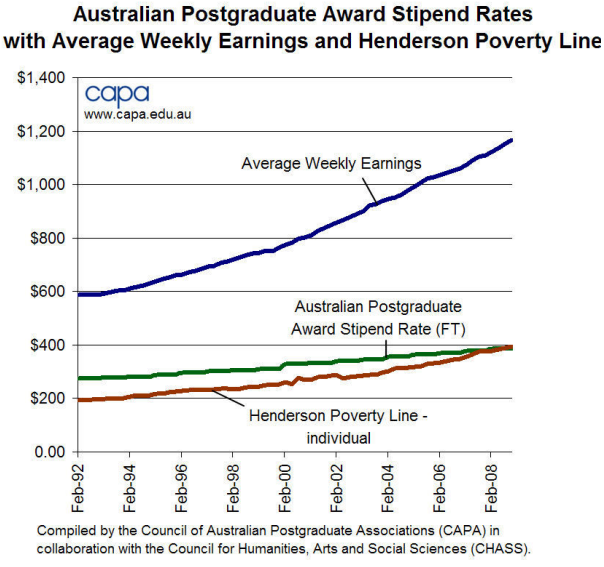
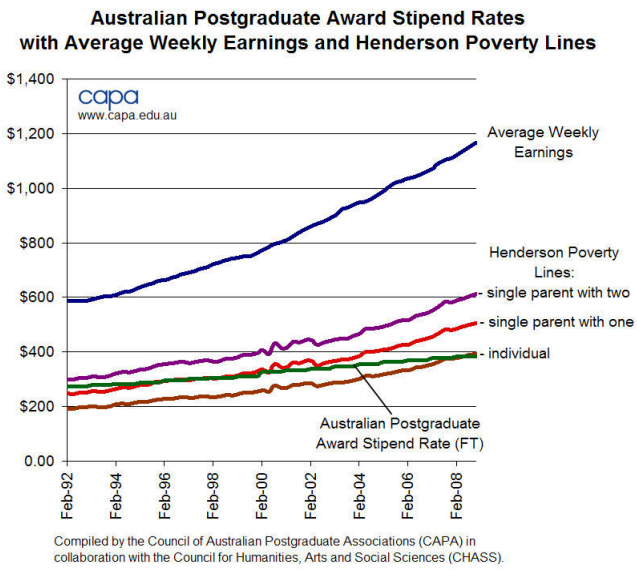



**Figure 4:**




Stipend rates have failed to keep pace with average weekly earnings. As illustrated above, the APA has been below the poverty line for individuals with dependents for many years. Based on the average annual increase in seasonally adjusted household income, projections indicate the standard rate

[49] Bourke, S., Holbrook, A. & Lovat, T. (2007). Relationships of PhD candidate, candidature and examination characteristics with thesis outcomes. Presented at *Proceedings of the 2006 Australian Association for Research in Education Conference.* Melbourne.

for the APA will fall below the poverty line for single individuals for the first time by the end of 2008.[50,51]

If the award is to be able to meet its aims, an upward adjustment in the APA stipend rate is urgently needed. The same holds for all other Commonwealth funded awards, including part time APAs, APAI's and the IPRS (as illustrated in the table below):

**Table 8: Recommended adjustment for Commonwealth funded postgraduate awards**

| | APA stipend rates | | APAI | IPRS | |
|---|---|---|---|---|---|
| | Full time | Part time | | Single | w/dependents |
| 2008 rate | $ 20,007 | $ 10,710 | $ 26,140 | $20,007 | $22,554 |
| + 30% | $ 6,002 | $ 3,213 | $ 7,842 | $ 6,002 | $ 6,766 |
| | $ 26,009 | $ 13,923 | $ 33,982 | $ 26,009 | $ 29,320 |

**Recommendation 31:**

That stipend rates for all Federally funded Postgraduate Awards be increased by 30%

**Recommendation 32:**

That indexation arrangements for Federally funded Postgraduate Awards with stipends be reviewed, with a view to preventing the continued erosion of the value of awards.

### 5.1.3 Number

In the 2008 Federal Budget the Government doubled the number of Australian Postgraduate Awards between 2009 and 2012.[52] Although welcome, this increase does not adequately take into account our current needs in sustaining research capacity and research workforce planning for the medium and longer term.

**Recommendation 33:**

That the number of awards be increased commensurate with the need to maintain and renew Australia's research capacity and anticipated research workforce needs in the future.

[50] Palmer, N. (2008b). *Media Release: APAs to Break Poverty Line*. Council of Australian Postgraduate Associations, Carlton, Vic: www.capa.edu.au.
[51] "Cost of Study Deters Experts". *The Australian,* 21 May 2008.;Hare, J. (2008). Poverty engulfs PhDs. *Campus Review,* Vol.18, No.18.;Curry, D. (2008). PhD scholarships 'below poverty line'. *The Canberra Times.* Canberra, ACT, May 1.
[52] Senator the Hon Kim Carr (2008b). *Media Release: Government to Give More Postgraduates A Head Start*. Department of Innovation, Industry, Science and Research: http://minister.industry.gov.au/senatorthehonkimcarr/pages/governmenttogivemorepostgraduatesaheadstart.aspx.

## 5.1.4 Conditions of award

### *5.1.4.1 Part time enrolment*

Enrolment status is less of a static category for postgraduates than many may assume.[53] Combined with other factors, this suggests that many candidates actively use changes in enrolment status, and other features of managing their candidature available to them, in assist them to successfully complete their degree.

**Table 9: PhD enrolment history[54]**

| Enrolment status of respondents throughout candidature (n=5391) | |
|---|---|
| **Always part-time** | 16 |
| **Changed status** | 20 |
| **Always full-time** | 64 |

Despite the significant under-funding of stipend rates, under the current conditions of award, candidates cannot go part time for financial reasons, and scholarship holders must conform to a very narrow set of conditions in order to be able to go part time.

**Recommendation 34:**

That the Commonwealth Scholarship Guidelines be amended to give award recipients greater flexibility in going part time.

## 5.1.5 Income and taxation status of awards

APA recipients may go part time if they are able to meet the Student Eligibility Requirements under the APA Guidelines. Currently those conditions include being able to demonstrate extenuating carer responsibilities, or require proof of a serious medical condition. Candidates who meet these conditions obviously have to balance a range of pressures and responsibilities in seeking to complete their degree. Despite this, candidates moving to a part time scholarship risk losing access to other support measures, like disability and carer benefits, previously unaffected by the full time award. They also must start paying tax on their stipend: while full time awards are tax exempt, part time awards are not.

The 2005 Senate Inquiry into Student Income Support found that:

> *…a serious inequity in the income support system is created by part-time APA scholarships being subject to income tax under the ss.51-10 of the*

[53] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au.

[54] Ibid. (p.7)

*Income Tax Assessment Act 1997, whereas fulltime APA scholarships are not.*[55]

[and that]

*The committee recommends that the Department of Education, Science and Training undertake an analysis of the costs and benefits associated with exempting university-funded scholarships and scholarships funded by benefactors and philanthropists from the social security personal income test.*[56]

In 1997 the Australian Democrats introduced to the Senate the *Taxation Laws Amendment (Part-Time Students) Bill 1997*.[57] The Bill was subsequently referred to the Senate Economics Legislation Committee for consideration, resulting in a report from the Committee in July 1998. The Committee report noted that:

*Delaying the completion of a degree in turn delays the students entry into the workforce. This could then inhibit the Commonwealth's ability to receive more revenue by the taxation on the employment of the postgraduate*.[58]

Forgiving the Senate Economics Legislation Committee the assumption that most postgraduates are unlikely to have participated in the workforce prior to undertaking their degree, the Committee sensibly observed that it is in the best interests of all parties concerned to allow postgraduates access to income support at the critical time of their degree. In regard to exempting part time scholarships from taxation, the Committee concluded that the impact on Commonwealth revenue in passing the Bill would be "marginal", or at worst, only have a "very minor influence".[59]

The Bill has been adjourned at the second reading stage since 30 Oct 1997.

**Recommendation 35:**

That all scholarships and awards be exempt from assessable income for taxation and income support purposes including, importantly, part time awards.

[55] Item 3.30: The Senate Employment Workplace Relations and Education References Committee (2005). *Student Income Support*, Commonwealth of Australia, Canberra. (p.40)
[56] Recommendation 11: Ibid. (p.43)
[57] Stott Despoja, S. N. (1997). Taxation Laws Amendment (Part-Time Students) Bill 1997, *97205.* www.aph.gov.au/parlinfo/billsnet/97205.pdf.
[58] The Senate Economics Legislation Committee (1998). *Consideration of Legislation Referred to the Committee: Taxation Laws Amendment (Part-Time students) Bill 1997*, Parliament of the Commonwealth of Australia, Canberra. (p.4)
[59] Senate Economics Legislation Committee (1998). *Consideration of Legislation Referred to the Committee: Taxation Laws Amendment (Part-Time students) Bill 1997*, Parliament of the Commonwealth of Australia, Canberra. (p.4)

### 5.1.6 Other equity measures

Many universities offer research scholarships specifically for members of the DEEWR-defined equity groups, and provide quality programs and resources in support of indigenous candidate recruitment, retention and successful completion. A review of the Research Training Scheme offers the opportunity for the Commonwealth to create additional incentives for institutions to improve their performance in research education access and equity.

**Recommendation 36:**

Commencements and completions of research candidates from among equity groups should be factored into the evaluation of institutional performance on equity measures.

**Recommendation 37:**

That the Commonwealth introduce additional measures to improve research education access and equity, including weighted completion values for equity groups.

**Recommendation 38:**

That the Commonwealth introduce weighted completion values for indigenous candidates.

### 5.1.7 IPRS

The IPRS scheme needs to fit with the needs of international students as a distinct group. Currently there is a mis-match between degree requirements, conditions of award and the visa constraints which international students are challenged with negotiating. The IPRS program has aims distinct from other Commonwealth funded awards. Commonwealth award programs are directed at different constituencies with different needs, for different purposes. For these reasons CAPA does not support incorporating the IPRS program with domestic APAs, or any other Commonwealth funded postgraduate award scheme.

**Recommendation 39:**

That the IPRS be maintained as a separate scheme for international research postgraduates.

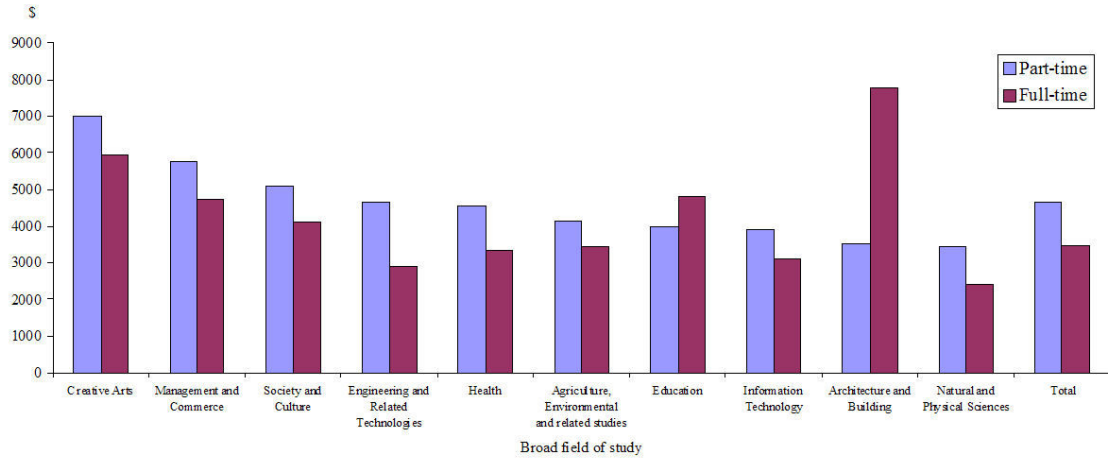
**Recommendation 40:**

That the fitness for purpose of the IPRS for the needs and circumstances of international research postgraduates be reviewed.

## 5.2 Minimum resource standards

Resource standards vary significant; both across and within universities (and, anecdotally, even within departments). Many universities make a minimum level of funding available to all students to fund consumables, fieldwork, lab or research costs, or attendance at conferences.

**Private funds provided for their doctorate according to respondents to a 2005 national survey, by Broad Field of Study (n = 4,960).**




Postgraduates draw significantly on their own funds to support the costs of research. Evidence from the Pearson et al survey indicates candidates are likely to have spent around $5,000 of their own funds on research related activity within the first 18 months of candidature.[60] Access to quality facilities and resources is also central to sustaining quality research and research education.

**Table 10: Use of PhD research infrastructure (by Location and Frequency)[61]**

| Infrastructure/Frequency of use | Never (%) | Rarely/sometimes (%) | Mostly/always (%) |
|---|---|---|---|
| **University** | 3 | 24 | 74 |
| **Home** | 9 | 43 | 49 |
| **Employer**[1] | 47 | 18 | 13 |
| **External research agency**[2] | 45 | 23 | 10 |
| **Industry partner**[3] | 56 | 15 | 4 |

[**Note:** 599 indicated 'other' infrastructure used, but not specified.
[1] N=4170, 77 % of survey population
[2] N=4196, 78% of survey population
[3] N= 4065, 75 % of survey population]

One of the most effective initiatives CAPA has been involved in is the development of the *2004 Statement of Minimum Resources for Postgraduate*

[60] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au.
[61] Ibid. (p.24)

*Study.*[62] This has proven to be an extremely successful initiative in providing universities with a reasonable benchmark for the provision of resources for research postgraduates. Many universities now have effective measures in place to help support students with the costs and resources for doing research based on a consistent, transparent, institution-wide policy.

It is vital to ensure adequate support for people to do high quality research, and to successfully complete their degree. The quality of university research infrastructure is integral to the research culture of the university. If universities are unable to provide students with adequate work spaces, equipment or other basic facilities, the entire research culture suffers. An impoverished research environment has broader consequences than simply impeding the research of a single individual. Extended access to infrastructure for part-time students is also a critical issue. Part-time students benefit greatly from after hours access to laboratories, computer rooms and extended library opening hours.

**Recommendation 41:**

That the implementation of a clear and detailed policy on minimum resource standards for research higher degree students be a Commonwealth requirement of providers for the receipt of funding for research places.

**Recommendation 42:**

That the Commonwealth make funding available for the Council of Australian Postgraduate Associations to continue to develop initiatives aimed at promoting appropriate minimum resource standards for postgraduate students.

## 5.3 Support services

Support services are critical in efforts to retain and support candidates through to the successful completion of their degree.

One of the distinguishing features of research education is the relatively un-structured learning environment when compared to coursework programs. Strengths include the freedom to be genuinely innovative, and the flexibility to support genuine freedom of inquiry. Weaknesses include the risk of isolation, where inadequate support services are in place, or where institutions fail to ensure reasonable measures to support a collegial research environment. Isolation is a significant risk factor in research education: personally, professionally and academically.

[62] Council of Australian Postgraduate Associations (2004). 2004 Statement of Minimum Resources for Postgraduate Study. Ed. Horton, S. Council of Australian Postgraduate Associations, Carlton, Vic: www.capa.edu.au.

Many universities have recognised the potential for HDR students to feel isolated during their candidature, and are increasingly aware that this sense of isolation may contribute to a student's decision to withdraw from their degree program. In contrast, being actively involved in an academic community not only provides students with important social support, but can also contribute to the cross-fertilisation of research and create opportunities for research collaboration. The implementation of the RTS has prompted some universities to attempt to combat the isolation of the postgraduate research experience and foster a sense of research culture in a number of ways.

One means of fostering a vibrant research culture is through building collegiality between postgraduates and staff. Access to staff amenities, staff training programs and through simply being included on staff communications can make a significant positive impact. Not only do measures like this serve to promote a vibrant research culture within the department, but also go a long way in addressing the sense of isolation which is, sadly, among the most prominent features of postgraduate study.

Postgraduate student associations play an important role in creating a sense of community for HDR students. Many postgraduate associations organise social events for postgraduate students, as well as their own academic and professional development programs. Many postgraduate associations offer advocacy services for students, and assist to resolve student concerns about all aspects of their candidature. They also play an important representative function for students: elected student representatives may sit on relevant academic committees, and often work closely with Schools of Graduate Studies to provide the university with additional feedback on the postgraduate research experience.

CAPA and its affiliated campus-based organisations are instrumental in helping retain research students, and "filling the gaps" in research training. Many postgraduates also risk falling at the last hurdle due to personal, financial or academic problems. Academic advocacy and support has always been the "core business" of postgraduate associations.

**Table 11: Providers of support activities identified by PhD students[63]**

| Training type/providers | Department / faculty | Graduate school | PG student association | Professional organisation | Other |
|---|---|---|---|---|---|
| Seminar series | 69 | 13 | 7 | 6 | 5 |
| Social activities | 45 | 4 | 26 | 6 | 19 |
| Discussion group | 60 | 11 | 8 | 7 | 14 |
| Electronic network | 27 | 11 | 12 | 23 | 27 |
| Writing group | 33 | 29 | 16 | 3 | 19 |
| Other doctoral group | 40 | 11 | 11 | 7 | 31 |

[63] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au. (p.22)

Across universities, there is a high degree of variability in terms of what's on offer for postgraduate students. Postgraduate representative organisations exist to "fill the gaps" in terms of services, facilities and support for postgraduate students that universities themselves cannot, or do not, provide. They do their best for their constituents with the resources available despite the devastation from the former Federal Government's so-called VSU legislation.

Some postgraduate associations still offer access to resources like quiet study facilities after hours. High demand for facilities like this has seen students camped-out in stairwells just to have somewhere quiet to work. Postgraduate associations fill the gaps across a range of services, all with the aim of helping people cope with postgraduate study, and the unique challenges it presents.

CAPA's recent submission in response to the *VSU Discussion Paper*[64], and 2007 report *The Impact of VSU on Postgraduate Students*[65], both highlighted that postgraduate students bore the brunt of the impact of VSU. They have lost more dedicated facilities, services and support than any other group.

**Recommendation 43:**

That the committee include in its recommendations to the Commonwealth that any measures with the aim of addressing the impact of the former Federal Governments "VSU" amendments to the Higher Education Support Act must provide for sustainable, dedicated services and representation specifically for postgraduate students.

[64] Palmer, N. (2008a). *The Impact of VSU on Services, Amenities and Representation for Australian Students (Response to Discussion Paper)*. Council of Australian Postgraduate Associations, Carlton, VIC: www.capa.edu.au.
[65] Skinner, S., Chenco, C. & Palmer, N. (2007). *The Impact of VSU on Postgraduate Students*. Council of Australian Postgraduate Associations, Carlton, VIC: www.capa.edu.au.

# 6 Conclusion

CAPA endorses the terms of reference for this inquiry. They echo an expansive view of the role of research education and research workforce planning. We believe the Committee has a real opportunity in the course of this inquiry to bring about important reforms. This inquiry has the scope to pose important questions in regard to the role and effectiveness of research education and research workforce planning that have been denied or overlooked for some time.

On behalf of Australia's postgraduates CAPA hopes that as a result of this inquiry future programs will be informed by aims appropriate to the opportunities that abound amid the potential of our universities, and of our current and prospective researchers now and into the future.

Only through adequate investment, and an approach appropriate to meeting those aims will we have the chance to draw on the very real potential that is available. Through maintaining standards of excellence in research, in sustaining a world class higher education system, and through opportunities for investment in human capital that an enlightened approach to research education provides.

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# Appendix I: The Definition of Research

The definition of research currently employed by the Federal Government is based on that outlined in the "Frascati Manual" (2002)[66]:

*RESEARCH*[67]

*The meaning of "research" is as defined by the OECD for "research and experimental development":*

*Research and experimental development comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man (sic), culture and society, and the use of this stock of knowledge to devise new applications.*

*Research is characterised by originality; it has investigation as a primary objective and has the potential to produce results that are sufficiently general for humanity's stock of knowledge (theoretical and/or practical) to be recognisably increased.*

*Research includes pure basic research, strategic basic research, applied research.*

*In addition to the activity of people who are obviously engaged in research, research activity also includes:*

- *the provision of professional, technical, administrative or clerical support and/or assistance to staff directly engaged in research;*
- *management of staff who are either directly engaged in research or are providing professional, technical or clerical support or assistance to those staff;*
- *activities of students undertaking postgraduate research courses;*
- *development of postgraduate research courses; and*
- *supervision of students undertaking postgraduate research courses.*

*The following specific activities are not to be classified as being research except where they are primarily for the support of, or as part of research activities:*

- *preparation for teaching;*
- *literary and artistic activities such as creative writing (but note that preparation of an original report on research findings is research);*
- *scientific and technical information services;*
- *general purpose or routine data collection;*
- *standardisation and routine testing;*
- *feasibility studies (except into research projects);*
- *specialised routine medical care;*
- *the commercial, legal and administrative aspects of patenting, copyright or licensing activities; and*

*routine computer programming, systems work or software maintenance (but note that research into applications software, new programming languages and new operating systems is included).*

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[66] Organisation for Economic Co-operation and Development. (2002). *The measurement of scientific and technical activities : proposed standard practice for surveys on research and experimental development : Frascati manual 2002.* Organization for Economic Co-operation and Development, Paris.

[67] Department of Education Employment and Workplace Relations (DEEWR) (2008). Research. *User Guides and System Requirements: Glossary.* The Commonwealth of Australia. Accessed May 28, 2008: www.heimshelp.deewr.gov.au/2_Glossary/R/research.

# Appendix II: Supplementary Age Data

**Table 12: Age of PhD students by broad field of study[68]**

| Broad Fields Of Study/ means | Mean | Std. Deviation | Minimum boundary | Maximum boundary |
|---|---|---|---|---|
| Agriculture, Environmental and Related Studies | 32.89 | 9.196 | 21 | 70 |
| Architecture and Building | 38.26 | 9.407 | 24 | 68 |
| Creative Arts | 40.03 | 11.931 | 21 | 75 |
| Education | 45.15 | 10.134 | 21 | 81 |
| Engineering and Related Technologies | 28.95 | 6.970 | 21 | 60 |
| Health | 34.47 | 10.343 | 21 | 76 |
| Information Technology | 34.09 | 10.466 | 21 | 80 |
| Management and Commerce | 38.31 | 10.429 | 22 | 78 |
| Natural and Physical Sciences | 28.63 | 7.809 | 16 | 74 |
| Society and Culture | 37.26 | 11.545 | 21 | 70 |
| All respondents | 34.75 | 11.011 | 16 | 81 |

[68] Pearson, M., Cumming, J., Evans, T., Macauley, P. & Ryland, K. (2008). Exploring the extent and nature of the diversity of the doctoral population in Australia: a profile of the respondents to a 2005 national survey. Presented at *Quality In Postgraduate Research Conference: Research Education in the New Global Environment.* Adelaide (in press): www.qpr.edu.au. (p.6)

## Appendix III: RHD Students (all providers)

| | | | | | PhD Research | | | Master's Research | | | Total RHD | | | Total CWHD | total PG | total U/G | total other | Total All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Grp | R | State | State/Provider | %PG | %All | # | %PG | %All | # | %PG | %All | # | # | # | # | # | # |
| sai | | SE | VIC | Melbourne College of Divinity | 11% | 7.92% | 66 | 17% | 12% | 98 | 28% | 19.69% | 164 | 426 | 590 | 243 | | 833 |
| uni | Go8 | E | ACT | Australian National University, The | 37% | 14.15% | 2,059 | 2% | 1% | 130 | 39% | 15.04% | 2,189 | 3,400 | 5,589 | 8,614 | 350 | 14,553 |
| uni | Go8 | W | WA | University of Western Australia, The | 39% | 9.31% | 1,654 | 8% | 2% | 340 | 47% | 11.23% | 1,994 | 2,281 | 4,275 | 13,446 | 40 | 17,761 |
| uni | Go8 | SE | VIC | University of Melbourne, The | 25% | 8.68% | 3,764 | 7% | 2% | 1,063 | 32% | 11.12% | 4,827 | 10,251 | 15,078 | 27,786 | 525 | 43,389 |
| uni | Go8 | S | SA | University of Adelaide, The | 29% | 8.49% | 1,638 | 4% | 1% | 209 | 33% | 9.57% | 1,847 | 3,718 | 5,565 | 13,205 | 520 | 19,290 |
| uni | Go8 | N | QLD | University of Queensland, The | 31% | 8.25% | 3,096 | 5% | 1% | 492 | 36% | 9.56% | 3,588 | 6,245 | 9,833 | 26,854 | 831 | 37,518 |
| uni | Go8 | E | NSW | University of Sydney, The | 21% | 6.75% | 3,093 | 5% | 2% | 751 | 26% | 8.38% | 3,844 | 10,702 | 14,546 | 30,224 | 1,078 | 45,848 |
| uni | Go8 | E | NSW | University of New South Wales, The | 18% | 6.31% | 2,446 | 4% | 1% | 576 | 22% | 7.79% | 3,022 | 10,686 | 13,708 | 23,542 | 1,526 | 38,776 |
| uni | | E | ACT | Australian Defence Force Academy (w/ UNSW) | 13% | 6.20% | 154 | 3% | 1% | 35 | 15% | 7.61% | 189 | 1,036 | 1,225 | 995 | 263 | 2,483 |
| uni | | SE | TAS | University of Tasmania | 36% | 5.89% | 1,029 | 8% | 1% | 239 | 44% | 7.26% | 1,268 | 1,583 | 2,851 | 14,303 | 317 | 17,471 |
| uni | IRU | W | WA | Murdoch University | 32% | 5.56% | 774 | 5% | 1% | 130 | 37% | 6.50% | 904 | 1,543 | 2,447 | 11,296 | 174 | 13,917 |
| uni | Go8 | SE | VIC | Monash University | 16% | 4.65% | 2,549 | 5% | 1% | 805 | 21% | 6.12% | 3,354 | 12,269 | 15,623 | 38,192 | 1,009 | 54,824 |
| uni | IRU | S | SA | Flinders University of South Australia, The | 17% | 4.94% | 762 | 3% | 1% | 122 | 20% | 5.73% | 884 | 3,577 | 4,461 | 10,824 | 133 | 15,418 |
| uni | | E | NSW | University of Wollongong | 14% | 4.22% | 924 | 4% | 1% | 253 | 17% | 5.38% | 1,177 | 5,630 | 6,807 | 14,092 | 976 | 21,875 |
| uni | IRU | SE | VIC | La Trobe University | 14% | 3.89% | 1,102 | 3% | 1% | 250 | 17% | 4.77% | 1,352 | 6,728 | 8,080 | 20,044 | 193 | 28,317 |
| uni | IRU | E | NSW | Macquarie University | 11% | 3.99% | 1,242 | 2% | 1% | 215 | 13% | 4.68% | 1,457 | 9,546 | 11,003 | 18,141 | 1,982 | 31,126 |
| uni | | E | NSW | University of New England, The | 11% | 3.35% | 586 | 4% | 1% | 201 | 15% | 4.50% | 787 | 4,313 | 5,100 | 12,170 | 212 | 17,482 |
| uni | ATN | W | WA | Curtin University of Technology | 16% | 3.70% | 1,461 | 4% | 1% | 311 | 20% | 4.49% | 1,772 | 7,096 | 8,868 | 29,266 | 1,325 | 39,459 |
| uni | IRU | N | QLD | James Cook University of North Queensland | 17% | 3.70% | 569 | 4% | 1% | 118 | 21% | 4.47% | 687 | 2,568 | 3,255 | 11,480 | 643 | 15,378 |
| uni | IRU | E | NSW | University of Newcastle, The | 13% | 3.08% | 787 | 5% | 1% | 310 | 19% | 4.29% | 1,097 | 4,761 | 5,858 | 17,406 | 2,306 | 25,570 |
| uni | ATN | E | NSW | University of Technology, Sydney | 9% | 3.21% | 1,051 | 2% | 1% | 278 | 12% | 4.06% | 1,329 | 10,013 | 11,342 | 20,901 | 469 | 32,712 |
| uni | | N | NT | Charles Darwin University | 18% | 3.47% | 187 | 3% | 1% | 31 | 21% | 4.04% | 218 | 799 | 1,017 | 3,833 | 546 | 5,396 |
| uni | ATN | SE | VIC | RMIT University | 11% | 2.77% | 1,150 | 5% | 1% | 500 | 16% | 3.98% | 1,650 | 8,376 | 10,026 | 31,199 | 222 | 41,447 |
| uni | ATN | N | QLD | Queensland University of Technology | 13% | 2.84% | 1,096 | 4% | 1% | 378 | 17% | 3.83% | 1,474 | 7,029 | 8,503 | 29,361 | 660 | 38,524 |
| uni | IRU | N | QLD | Griffith University | 17% | 3.42% | 1,209 | 2% | 0% | 141 | 19% | 3.82% | 1,350 | 5,763 | 7,113 | 26,872 | 1,350 | 35,335 |
| uni | | E | NSW | Southern Cross University | 17% | 3.33% | 462 | 2% | 0% | 59 | 19% | 3.75% | 521 | 2,158 | 2,679 | 10,874 | 330 | 13,883 |
| uni | | SE | VIC | Swinburne University of Technology | 9% | 3.00% | 521 | 1% | 0% | 53 | 10% | 3.30% | 574 | 4,922 | 5,496 | 11,547 | 347 | 17,390 |
| uni | | SE | VIC | Victoria University | 14% | 2.95% | 595 | 1% | 0% | 60 | 16% | 3.25% | 655 | 3,497 | 4,152 | 15,471 | 557 | 20,180 |
| uni | ATN | S | SA | University of South Australia | 10% | 2.74% | 916 | 1% | 0% | 77 | 11% | 2.97% | 993 | 7,744 | 8,737 | 23,911 | 762 | 33,410 |
| uni | | SE | VIC | Deakin University | 10% | 2.54% | 844 | 1% | 0% | 65 | 10% | 2.74% | 909 | 7,807 | 8,716 | 23,935 | 551 | 33,202 |
| uni | | E | ACT | University of Canberra | 7% | 1.94% | 211 | 2% | 1% | 67 | 9% | 2.56% | 278 | 2,798 | 3,076 | 7,656 | 126 | 10,858 |
| uni | | | Multi | Australian Catholic University | 7% | 2.00% | 280 | 2% | 1% | 70 | 9% | 2.51% | 350 | 3,509 | 3,859 | 9,450 | 658 | 13,967 |
| uni | | W | WA | Edith Cowan University | 7% | 1.64% | 394 | 3% | 1% | 170 | 10% | 2.35% | 564 | 5,360 | 5,924 | 17,558 | 507 | 23,989 |
| uni | | E | NSW | University of Western Sydney | 12% | 1.97% | 650 | 2% | 0% | 94 | 14% | 2.26% | 744 | 4,534 | 5,278 | 26,969 | 688 | 32,935 |
| uni | | SE | VIC | University of Ballarat | 3% | 1.62% | 169 | 1% | 0% | 37 | 4% | 1.98% | 206 | 4,979 | 5,185 | 5,112 | 133 | 10,430 |
| sai | | SE | TAS | Australian Maritime College | 9% | 1.20% | 15 | 2% | 0% | 4 | 11% | 1.52% | 19 | 149 | 168 | 1,079 | 1 | 1,248 |
| uni | | N | QLD | University of the Sunshine Coast | 5% | 1.19% | 69 | 1% | 0% | 17 | 7% | 1.49% | 86 | 1,191 | 1,277 | 3,919 | 591 | 5,787 |
| nsai | | | Multi | Australian College of Theology Council Incorporated | 1% | 0.59% | 15 | 2% | 1% | 22 | 3% | 1.44% | 37 | 1,075 | 1,112 | 1,451 | | 2,563 |
| uni | | N | QLD | Bond University | 4% | 1.36% | 63 | 0% | 0% | 2 | 4% | 1.40% | 65 | 1,475 | 1,540 | 1,915 | 1,180 | 4,635 |
| uni | | E | NSW | Charles Sturt University | 5% | 1.20% | 409 | 0% | 0% | 39 | 5% | 1.31% | 448 | 8,027 | 8,475 | 24,150 | 1,522 | 34,147 |
| uni | | N | QLD | Central Queensland University | 2% | 0.89% | 224 | 1% | 0% | 73 | 3% | 1.17% | 297 | 9,636 | 9,933 | 14,477 | 895 | 25,305 |
| nsai | | E | NSW | Sydney College of Divinity | 2% | 0.67% | 12 | 1% | 0% | 7 | 3% | 1.06% | 19 | 675 | 694 | 1,068 | 26 | 1,788 |
| uni | | W | WA | University of Notre Dame, Australia, The | 5% | 0.76% | 43 | 1% | 0% | 12 | 7% | 0.98% | 55 | 755 | 810 | 4,319 | 507 | 5,636 |
| uni | | N | QLD | University of Southern Queensland | 2% | 0.68% | 171 | 1% | 0% | 50 | 3% | 0.88% | 221 | 7,634 | 7,855 | 14,689 | 2,699 | 25,243 |
| nsai | | E | NSW | Moore Theological College | | | | 2% | 0% | 1 | 2% | 0.32% | 1 | 43 | 44 | 268 | | 312 |
| nsai | | E | NSW | Avondale College | | | | 1% | 0% | 1 | 1% | 0.08% | 1 | 176 | 177 | 1,031 | 38 | 1,246 |

From *Students 2006 (full year), Selected Higher Education Statistics* (DEEWR).