

Surveying Postdoctoral Researchers in Australian Universities On-line

Paper presented at Network 2000 by John Thompson

My presentation this morning will share with you our experience with surveying PDRs in Australian universities. These on-line surveys formed the primary source of data for the "Postdoctoral Training and Employment Outcomes" project.

Background to scope and design

To help you understand the survey scope and design I will explain some of the background to the "Postdoctoral Training and Employment Outcomes" study, including a bit of my background.

For 14 years between 1985 and 1999 I worked as a postdoctoral researcher in the Research School of Chemistry here at ANU. From 1991 to 1999 I was on the Board of the Institute of Advanced Studies representing non-tenured staff and was heavily involved in policy discussions about terms and conditions and career support for non-tenured academic staff.

In late 1998 I was becoming increasingly concerned about the divergence of perception about postdoctoral employment outcomes between university management, represented by the Board of the IAS, and postdocs on the ground. Hard data were needed.

To this end I sought to track the career destinations of all former PDRs from my Research School whose appointments ended during the 7 year period between 1992 and 1998, some 105 in all. With the help of colleagues I was able to locate all but a handful.

I will now summarise what this preliminary study and the anecdotal evidence of the time were suggesting.

Preliminary study and anecdotal evidence

Perceptions of current PDRs

1. PDRs were spending more time on the postdoc treadmill and, as a consequence, the average age of PDRs was increasing.
2. Most PDRs aspired to academic careers - either in teaching/research or research-only positions
3. Most PDRs were keen to obtain more secure positions
4. PDRs with overseas experience were not faring any better in securing academic career positions than those without it

Training and career support

1. In general, PDR positions were not training positions according to normal meanings of the word training
2. Rather, PDRs were themselves doing a lot of training and supervision, of PhD students, junior postdocs, and non-academic research support staff

3. There was generally a lack of good career advice and support both before and during taking up PDR appointments
4. There was very little broader skills training for postdocs, e.g. communication skills, management skills, IT skills. Even relatively little teacher training.

Employment outcomes

1. Of the former PDRs from the Research School of Chemistry
 - only about 1 in 5, or 20%, had secured ongoing academic teaching/research or research-only appointments
 - over 40% were still working as PDRs elsewhere in Australia or overseas
 - the other 40% were now working outside universities, mainly in Government or for industry, or were unemployed
2. Anecdotal evidence from most other research fields at ANU suggested similar outcomes

Supervisors' perceptions of employment outcomes

There was a strong perception among tenured academic staff that most PDRs eventually secured tenured appointments in universities. This was because supervisors tended to maintain professional contact with the minority of PDRs who secured tenured academic positions.

Data collection on PDRs

As the higher education research system was so focussed on research outcomes, there were no data or requirements to collect data on training or employment outcomes

How the EIP project was born

A necessary first step towards serious policy debate was to have high quality, up-to-date information about PDRs. Margot Pearson and I had shared a common interest in PDR issues for many years. Initially we had in mind to perform a study at ANU, but following Robin Stanton's intervention this idea quickly blossomed into a system-side Evaluations and Investigations Programme project entitled "Postdoctoral Training and Employment Outcomes".

The title of the project was carefully chosen to reflect two fundamental issues:

- Are PDR positions genuinely training positions or are they, in practice, contract research positions?
- What are the employment outcomes of the postdoctoral research system as opposed to the research outcomes?

Broad methodology

- To learn about employment outcomes we needed up-to-date information about, and preferably from, former postdoctoral researchers.
- To learn about postdoctoral training experience we needed direct information from both current and former postdoctoral researchers.
- To learn about postdoctoral training policy in universities we needed to interview their senior executive.

Therefore, we planned two surveys:

- the larger survey aimed to identify and contact all current PDRs in Australian universities,
- the smaller survey aimed to contact former PDRs from Schools, Faculties and Departments representative of the fields of research.

Objectives of the current PDR survey

The objectives of the current PDR survey were:

- identify the current PDR population
- obtain demographic, post-PhD employment, current employment, and future employment outlook data

Objectives of the former PDR survey

The objectives of the former PDR survey were:

- sample the former PDR population (up to 6 years after PDR appointment)
- obtain demographic, post-PhD employment, current employment, postdoctoral training experience data

Why we opted for on-line surveying.

We decided early on that the primary communication medium for the study would be electronic mail and the internet. The rationale was:

- the tight '12 month' time frame (in fact 8 months by the time ethics and other clearances had been received)
- the need to communicate with many former PDRs overseas in different time zones
- limited human resources available
- expected high levels of internet and email literacy of target
- expected high levels of access

Issues about obtaining lists of PDRs from universities

All but one university agreed formally or informally to participate in the study.

We suggested in our letters to Vice Chancellors that the Research Office would provide the best point of contact. This was a mistake as Research Offices generally only have records of fellowship holders. PDRs employed from research grants, industry funds or internal budgets were generally not known to the Research Offices. The correct access point for this information proved to be the Human Resource or Personnel Office.

Another issue was disclosure of information, even though the names and contact details of the great majority of PDRs were already in the public domain, that is, on their web sites. Admittedly, obtaining collated lists from universities was preferable to searching through the web sites. Two universities referred the request to their ethics committees and eventually provided the list of names. One university refused to provide a list of names, but we obtained them anyway by searching the web site.

A large number of universities would not provide us with e-mail addresses because they were listed separately and would require too much work to merge with the name lists. We had to search their web sites and add them ourselves. Two universities supplied us with mainly fictitious email addresses. One major research university required us to send anonymous emails to its PDR staff, that is, we had to send invitations to all staff with the name of the PDR we were wishing to contact.

No common description of PDR in universities

The exercise of obtaining lists of PDRs from the 38 universities and colleges in the UNS revealed the lack of a common definition or understanding of who are postdoctoral research staff. Our definition was

Fixed term, research-only Level A or B academic with PhD qualification.

Most commonly, PDFs and RFs were treated separately from industry, grant or internally-funded PDRs. There was also variable treatment of PhD'd research officers and research assistants.

This observation highlighted the strong need for a system-wide definition of postdoctoral researcher, similar to a recommendation of the American Association of Universities a few years ago.

The survey process

The survey process, which applied to both the current and former PDR surveys, is summarised in the following flow chart.

Invitation

The initial personalised e-mail to PDRs explained the project, what we were wanting from them, how their identity would be protected, and emphasised the voluntary nature of the survey. We had valid e-mail addresses for 85% of the population derived from the university-supplied lists.

E-mail acceptance of invitation

48% of the PDRs for whom we had valid e-mail addresses agreed to participate with over half replying within the first 32 hours of the email having been sent. Only about 0.1% replied to say that they did not agree to participate.

Questionnaire

The questionnaire was then sent, usually within one hour of receiving the acceptance, both a text version as an e-mail and the web address for the web form version.

Questionnaire response

Of those who agreed to participate 90% responded, giving an overall response rate of 43% of the effective population (i.e. those for whom we had valid e-mail addresses)

92% of questionnaire responses were received as preformatted web form responses.

Data entry

The survey data were entered into a FileMaker Pro database. Web form responses could be entered semi-automatically with a batch of 50 web form responses taking about 2 minutes. Conversely, each e-mail response took 12-15 minutes to key in.

As web forms use the e-mail system for transmission of data, the content of questionnaire responses is as secure as the email system.

Advantages and disadvantages of surveying on-line

There are three main advantages of on-line surveys.

1. They are almost instantaneous
2. It is more resource efficient than any other method
3. Data handling becomes almost trivial if web forms or other web interface software are used.

Disadvantages

1. E-mail is an "now" medium. Recipients will either act on the e-mail immediately or not at all. Follow up e-mails had a very low success rate.

Web access and literacy of Australia's PDRs

The very high proportion of current PDRs who opted for the web form response option, i.e. 92%, is testimony to the almost universal web access for staff in our universities and a very high level of web literacy. Government agencies should take note of this.

Keep the DETYA EIP web site bookmarked

As for the findings of the "Postdoctoral Training and Employment Outcomes" project, keep this page bookmarked. Personally, I hope that the EIP report will be endorsed by the Minister very early in the new year as the findings are particularly relevant to the current proposal to double the number of ARC fellowships.