

# Innovation: There's no action without industry at the table

DENISE CUTHBERT | THE AUSTRALIAN | APRIL 20, 2016 12:00AM



Without industry, government and the sector will have the same old conversation. Illustration: Tom Jellett.

**There weren't too many surprises in last week's Australian Council of Learned Academies report. Given the number of inquiries into research training, the research labour force and related issues in recent years, the surprise would be if this latest review uncovered any surprises at all.**

Research training, and specifically the PhD, was the subject of a House of Representatives inquiry in 2008 and has featured in several other inquiries commissioned under the aegis of Kim Carr's research labour force and innovation agenda. It is again the focus of attention as the present government recalibrates the innovation agenda as key to the transformation of the economy. Given this sustained political scrutiny, the ordinary person may be forgiven for thinking there is something terribly wrong with the system of training researchers.

Again, the ACOLA panel confirms that, far from being broken, the research training system is doing very well, at least as far as we know. The lack of longitudinal data on the outcomes of graduates remains a systemic problem and, unsurprisingly, the panel calls for moves to remedy this.

In terms of known measures, the Australian PhD stacks up: it is efficient, candidates are satisfied with their experiences, enrolments and graduations continue to grow, and it remains in high demand from international students. As yet another report into this issue released recently by the Office of the Chief Scientist tells us, science, technology, engineering and mathematics PhD graduates enjoy high levels of employment.

Possibly giving the lie to commonly stated concerns about the narrowness of their training, these PhD graduates exhibit high levels of cross-sectoral engagement: physics PhDs work in the financial services sector, while information and communications technology graduates work in urban planning providing evidence of their adaptability and the transferability of their skills and knowledge.

Further, the PhD undergirds the Australian research system, which generates a high proportion of global research outputs relative to the size of the population.

So, why all the focus on research training? Despite these strengths, there remain problems

with the orientation of research and its relationship to industry.

Relative to other OECD nations, Australia lags in innovation, in the take-up of research by industry and in university-industry collaborations. OECD data consistently points to Australia's poor performance on these measures.

This is the issue driving much of the political concern with the PhD, of which the ACOLA review is the most recent manifestation. It is thought that changing the nature of PhD training will assist in addressing these problems. PhD candidates better aligned to industry will assist in the transformation of the Australian economy from its dependence on mining to one led by knowledge and innovation.

The issues, however, are more complex. Of the 80 written submissions received by the ACOLA review panel, only two were made by bodies outside the university research sector: one from the Minerals Council of Australia, the second from the Pharmaceutical Society of Australia.

Representatives of other industry peak bodies and organisations were sought out by the panel for interview. However, the lack of written submissions from industry bodies raises the question of how seriously the university-industry collaboration agenda is being taken by Australian industry at large. This points to the challenges faced in raising levels of collaboration and increasing its scale across all industry sectors.

In the ACOLA panel report and the National Innovation statement, examples of innovative programs developed by individual universities or co-operative groups of institutions are extolled.

These include the iPrep industry placement scheme developed by West Australian universities; the Australian Technology Network of Universities' Industry Doctoral Training Centre, which has been delivering doctoral education with industry partners since 2012; and the scaling up of the Australian Mathematical Sciences Institute intern program through the embedding of intern business development officers in universities.

Universities are willing to engage in this endeavour and candidates are lining up to participate. The further growth of these initiatives and the development of new ones are constrained by the relative unwillingness of industry to join them.

Government wanting collaboration, universities adapting practices and eager students are not sufficient to bring about the desired change if industry cannot be persuaded to come to the table.

Yesterday, less than a week after the ACOLA report was released, deans and directors of graduate research from the 40 institutions that deliver higher degrees by research met in Adelaide to grapple with the findings of the report. Central to discussions were ways in which their institutions and the system at large could better deliver on the call for innovation and industry engagement in research training; and better prepare graduates to contribute to the transformation and growth of the Australian economy.

Were the findings of this most recent inquiry into research training in Australia as robustly examined in the boardrooms and the research and development and human resources departments of Australian industry? Is industry committed to finding ways to scale up the application of high-level research skills to the issues they face and to work with universities to innovate and transform businesses? Did the release of the ACOLA report even register beyond the higher education sector?

For their part, universities need to do a better job at communicating the skills possessed by PhD graduates and, as the ACOLA panel finds, do more concerted work with candidates in alerting them to the range of career outcomes for PhDs. Better data will help us tell this story, as will letting go of dated notions that PhD graduates who do not go on to academic careers are somehow wasting their skills and not returning on the investment made in their education.

However, for the foreseeable future, without Australian industry at the table, the Australian government and the higher education sector are destined to have versions of the same conversations they have been having at least since the publication of David Kemn's

Knowledge and Innovation policy paper in 1999. I am optimistic that we can all be more innovative than this.

*Denise Cuthbert is dean of RMIT University's school of graduate research and convener of the Australian Council of Graduate Research, the peak body for research education in Australia.*

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