



Submission

House of Representatives Industry, Science and Innovation Committee

Inquiry into research training and research workforce issues in Australian universities

Introduction

Regional universities face particular challenges in building strong research capacity. Some may be internal but others could be resolved by the way research training schemes are structured.

Developing from teaching institutions prior to 1990, regional universities require strong support and nurturing to contribute meaningfully to their region and build a credible reputation in research.

Lack of adequate Federal government funding over the past decade has forced regional universities such as Central Queensland University (CQU) to focus its core business on revenue-raising from teaching to the detriment of its fledgling research.

Regional areas have significant number of research topics that need addressing for the sustainable development of the regions. The research topics also differ from one region to another thus adding another dimension to the research needs.

Stronger support to the regional research could ensure sustainable regional development and hence reduction in the migration of population from rural to urban areas.

Summary

Without adequate levels of research training funds and proper support and nurturing from our more experienced 'cousins', regional universities could be in danger of becoming a 'stepping stone or a grave stone' for researchers.

Regional universities would benefit from collaboration with larger universities which are able to attract large research grants. Mentoring our early career researchers could form part of the mutual arrangements for metropolitan universities conducting research in regional areas.

Governments need to recognise that the cost of doing research at a regional university could be much higher than that in the cities. The impacts of isolation and the lack of adequate research infrastructure need to be factored into funding arrangements with regional universities. A locality weighting similar to that adopted in allocating other government grants should be considered.

The main factors for academics failing to complete a research degree at CQU would be:

- a lack of academic leadership
- lack of appropriate work load models for research-active staff
- no deliberate nurturing of staff in research
- a focus on short-term outcomes by management; and, size before quality
- a lack of investment in academic leaders for identified research foci
- slow and limited progress towards developing a small number of regionally-relevant areas of research

- no progress made towards identifying teaching-only areas where opportunities for regionally-relevant research are limited and, appropriate strategies to support excellence in teaching in those areas
- the difficulty in attracting qualified academic leaders to CQU
- the difficulty of achieving continuity when quality researchers look to move “onwards and upwards” elsewhere
- the need to compete, rather than cooperate, with other universities
- undermining (bullying) by larger universities, the contributions made by the regional universities in collaborative projects.

RECOMMENDATIONS:

Increase the proportion of grants allocated to regional areas.

Establish funding mechanisms that reward collaboration between larger and smaller universities.

Provide additional incentives for students who undertake research in regional universities.

Develop an agreement or compact with each university that would bind the parties in mutual obligation. For example, the government’s obligation to the university would be to provide sufficient funds to achieve certain stated research training objectives and targets. The university would reciprocate by allowing at least 20% research workload allocation for the duration of the scheme.

Apply a weighting to research training funds for regional universities. In setting the weighting two factors should be taken into account; firstly, the costs of travel, accommodation and incidentals incurred to attend conferences or meet with their supervisor/s and, secondly, the established capacity and infrastructure in the institution to support the researcher’s career path.

Research students who undertake studies in rural universities should be provided with an additional support, not only to attract more students but also to encourage them to interact more closely with their peers in larger universities.

Government research grants to reward collaboration with regional universities, especially if the research is performed in the local community or the research is closely connected to a regional community.

All universities MUST recognize the supervision of students from other universities via work load calculations.

Special grants be provided for supervisors to visit their student or vice versa.

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

Regional universities can make a significant contribution in the areas of science, research and innovation, as they are closer to the problems than those living in the cities.

Sustainable regional development requires urgent research on regional issues, and failing to do so may exacerbate migration of rural communities into urban areas.

Degradation of rural conditions is slow, but once it is set, it is extremely difficult to remediate. Thus an early intervention in identifying the problems and finding suitable solutions are of critical importance.

"Our group has made research contributions in a number of areas over the years, including education research. However, in most areas, our efforts have the feel of "making up the numbers" and are primarily motivated by the need to "generate some research statistics", and thereby "get promoted". Generally speaking, our research efforts have been conference-based, fragmented, and shallow. There has been much talk about the need to focus our research effort, but little progress has been made. The idea of our group developing one or two areas of quality research, ideally with some regional relevance, always made sense to me. Leadership has been lacking."

"There are huge benefits to supporting research in regional Universities beyond the research outcome. Regionally focused research connects to the local community at all levels. Mangrove dieback research at CQU has involved fishermen, conservationists, farmers, Parks Officers and their associated organisations. Universities are then viewed by the local community to be approachable institutions of relevance. There is also an economic advantage for local bodies such as Natural Resource Management Groups, in employing regionally based researchers. There is also a benefit for students beyond the mere knowledge base. Students accompany us on our field research during which they develop an enhanced understanding of the nature of science, employment and life skills. These students may not have been the top achievers in the school setting but often go on to become researchers and technicians themselves."

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The effectiveness of current Commonwealth research training schemes

Workloads can be a limiting factor in the effectiveness of research training. Due to the imperative to raise revenue from the teaching of international students, the workloads of some academic staff at CQU prohibit effective research.

The workloads of staff who engage in research are not adequately assessed

"After producing this paper, my enrolment was upgraded to a PhD. Unfortunately, at the same time, I was asked by the Dean to take on IT program coordination. This occurred as the delivery of our IT programs were put under pressure from our offerings on AICs. As international student numbers grew, our systems were tested, and found wanting. These were pioneering years for our AIC business. Enrolments in IT programs led the way. In following years, our BIT grew to produce more IT graduates than any other IT program in Australia. It was a busy time for IT program coordination.

Student numbers in IT courses grew rapidly at this time. Although at a distance, the new international students were demanding and had special needs. Increasing numbers of local IT

students also presented new challenges. Increasing demand for IT was driven by a wave of interest in the field, as well as the general “massification” of higher education at a time of high unemployment for secondary school graduates. The CQU management response was to maximise growth by accepting large numbers of local IT enrolments with poor academic credentials to join our international students with poor language skills. Pressure was then applied by managers to make our courses “more doable”. An enormous effort went into redeveloping our courses at this time.

I’m not sure if it was the risk of exposure to the international market, but managers were slow to employ the required number of additional IT academics during this period. New IT academics were employed, but not in sufficient numbers to avoid increased teaching loads. Staff to students ratios went through the roof. We also introduced a third teaching term at this time. There was the whole “quality thing” going on. ...

And my research... Well, in the two years I was enrolled as a Masters student, and then as a PhD student, I had enjoyed a total of about four hours contact with my supervisor. Sadly, little progress was made in my second year. I gave my enrolment away at the end of the second year.”

“In my faculty, PhD supervision accounts for 8% of the staff’s workload. Most students have at least two supervisors, and an allocation of 4% of time for supervision by each supervisor is grossly inadequate to produce a quality student. This is because supervisors have to spend a lot more time in resolving complicated administrative procedures, preparing the experimental set up and in correcting thesis, as compared to other larger universities who have streamlined admin procedures, have advanced research infrastructure and receive brighter students”.

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

Research has become competitive between institutions for grants. How can a small regional university in the process of developing its research potential compete with a Go8 university?

Interest in rural research is dwindling, despite the prediction that the demand for jobs in this sector would increase in future

“... I attended a couple of database research conferences, and made contact with some database academics. Sadly, my approach to UQ database academics received a discouraging response. The attitude rather elitist, and there was little interest in supporting a research colleague at a distance. All PhD candidates were required to attend meetings every week, face-to-face, and without exception.”

The isolation factor presents a formidable obstacle to pursuing a career in research. Simply to attend a conference in a capital city can mean finding an extra \$1000 or more that a colleague in the capital city need not find. When it is so costly to attain and maintain a research profile in a regional centre Faculty managers are faced with difficult decisions about where and who the funds should be allocated to.

Even though my Faculty would like to support my research, I’m having some trouble getting money to go to a conference to present a paper. It could cost as much as \$3000 to get there because of air fares and accommodation (it’s in Sydney). It is a lot of money with little return for the university. But how else does one build a research profile and career if one doesn’t go to conferences and try to publish papers?

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Adequacy of training and support available to research graduate students in Australia

Research graduates at regional universities have little or no experience in applying for research grants. Many academics and potential supervisors lack training and experience in supervision.

Research needs of one student will not be the same as the other student. The current approach of CQU providing mass training should be changed to student-specific training. For example, attending a 3-day workshop on statistical analysis is less useful than allowing a student to consult a statistician on one-to-one basis, several times during the course of a PhD study.

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Factors for graduates that determine pursuit of a career in research

In considering a career in research graduates deserve a qualified supervisor who is able to mentor them. CQU has had difficulty attracting sufficiently qualified senior researchers in sufficient numbers to adequately support our graduates into research.

"I have recently completed my PhD in the area of animal ecology. During the last round of Voluntary Separations the only other staff member researching animal ecology left. Even his field of research (turtles) was not closely aligned with mine (koalas). In a larger University I would have had a post-graduate plan mapped out for me with grant money and active research already in place."

Researchers from metropolitan universities will conduct their research in our region. However, no real mentoring or collaboration occurs.

Co-supervision of students by staff from more than one university should be recognised via workload allocation. At present, there are no incentives to supervise a student from another university as it is not taken into account in work load calculations.

"I had made a few attempts to break into research previously. In my early years, teaching a couple of database courses, the idea of doing some research in the database area seemed appropriate. However, at CQU, I was "it" when it came to database. When I approached our inaugural professor with an idea for a data-oriented query language (OLAP-related idea), he had to admit to limited expertise in the area; understandable. He did pass me a couple of books for background reading in preparation for a research."

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Opportunities for career advancement for research graduates and staff

Although OSPRO is in place, this has not been used effectively. Universities should encourage staff to avail this and provide reasonable financial support.

Staff who intend to spend time in another research organisation to be supported. Recent staff cuts are prohibiting this liberal exchange and OSPRO.

Factors determining pursuit of research opportunities overseas

Staff cuts prevent staff to visit other universities to teach or undertake collaborative research

Australia's ability to compete internationally for high quality researchers

Australian Universities are losing the plot by trying to curb the freedom of staff and dictating to them what to do by the management. Unless academic freedom is restored and the universities are adequately resourced at a level similar to that existing in Europe and the US, Australian universities will be hard pressed to attract high quality researchers.

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