

1 September 2023

## **Submission in Response to the Australian Universities Accord Interim Report Executive Summary**

Macquarie University's research community is proud of the excellence and value of our research and research training. Our researchers address national and global challenges, and our resulting outputs and outcomes, engagement and impact have led to health, economic, environmental, educational, social and cultural benefits for Australia. We have a long track record of research funding and have submitted to every round of the Excellence in Research for Australia (ERA) exercise and to the pilot (2017) and inaugural (2018) rounds of the Engagement and Impact exercise. Finally, we have worked to create distinctive and global research training pathways and programs.

In this context, research leaders from across the University have engaged with the *Australian Universities Accord Interim Report* (the Report) and offered their input.

This submission responds in detail to Section 2.7, *Research, Innovation and Research Training*, of the Report (as well as Sections 2.2 and 2.5 regarding research training) and should be read in conjunction with Macquarie University's overall submission.

Attachment 1 focuses on the future of national research evaluation exercises and translation of research to achieve benefits for the nation. We endorse the two overarching priorities of Section 2.7 and offer seven principles and recommendations for the Accord Panel's consideration.

Attachment 2 focuses on research training. We respond to suggestions in the Report to address future skills needs and comment on the possibility of a national, holistic policy for research training.

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## **Attachment 1. Areas of Agreement and Disagreement: The Future of National Research Evaluation and Translation of Research**

Macquarie University affirms the two overarching priorities of Section 2.7 -- to protect and increase the research strength of Australian universities, and to improve mechanisms for sharing and translating university research to end-users -- and in this attachment offers seven principles and recommendations.

### **1. Clarify explanations and definitions for research assessment exercises**

We recommend that in developing future assessments of university research, the government and sector explain which aspects of universities' research performance will be evaluated and when, why there is value in measuring them, who will use the data and how they will benefit from resulting insights. Clarity in rationale, methods and results will aid the process of streamlining assessment exercises as well as reduce administrative burden for universities (see also Section 4 below).

We also recommend that key terms relevant to assessment be explicitly defined according to national and international best practice to assist universities' (and external stakeholders') understanding of assessment exercises, including: 'innovation' (p. 105), 'useful[ness]' of university research (p. 106), 'value for money' (p. 110), '(research) impact' (pp. 110, 114), 'value' (p. 110), 'sharing and translating' (p. 110), and 'research quality' (pp. 110, 114).

Once it is clear which aspects will be measured and why, it will be important to develop and test quantitative and qualitative metrics and factors that will be used to evaluate, estimate, or approximate these concepts.

Finally, we suggest providing clear advice re the strengths and limitations of whichever measures of research performance are decided upon. The sector, as well as end-users of its research, will benefit from guidance on what can and cannot be inferred from the outcomes of assessments.

### **2. Align Australia's future research performance evaluation with international reforms**

Internationally, there is growing momentum to reform the assessment of research performance. Movements and organisations at the forefront of these reforms include: The Declaration on Research Assessment (<https://sfdora.org/>); the Coalition for Advancing Research Assessment (<https://coara.eu/>); and the Research on Research Institute (RoRI; <https://researchonresearch.org/>). These reforms urge 'responsible research assessment' (see for example, [https://rori.figshare.com/articles/report/The\\_changing\\_role\\_of\\_funders\\_in\\_responsible\\_research\\_assessment\\_progress\\_obstacles\\_and\\_the\\_way\\_ahead/13227914](https://rori.figshare.com/articles/report/The_changing_role_of_funders_in_responsible_research_assessment_progress_obstacles_and_the_way_ahead/13227914)).

These movements and organisations advocate placing less emphasis on blunt metrics to assess researchers and research quality (for example, journal citation data and international rankings) and, instead, employing nuanced measures that emphasise contextual factors and utilise peer review (for example, the narrative CV). In their view, using metrics to measure research quality is 'not neutral' and steers us towards some but not other notions of quality; for example, easily discoverable and measurable research (see for example, [https://rori.figshare.com/articles/report/Excellence\\_in\\_the\\_Research\\_Ecosystem\\_A\\_Literature\\_Review\\_RoRI\\_Working\\_Paper\\_No\\_5\\_/16669834](https://rori.figshare.com/articles/report/Excellence_in_the_Research_Ecosystem_A_Literature_Review_RoRI_Working_Paper_No_5_/16669834)).

Using metrics to measure research quality also disadvantages some areas of research, including Indigenous research, some HASS disciplines and multidisciplinary research. This disadvantage was evident in the ERA methodology and will continue to be enshrined by automated ‘data-driven approaches’, as discussed in the Report. We share concerns that automated research assessment methodologies that rely on public databases may disadvantage HASS disciplines due to nuances around the discoverability of their publication sources and outputs. There is genuine danger that significant amounts of this research will not be captured, and the already static rankings of HASS disciplines, as previously evaluated by ERA, may decline. Instead, we recommend that future research assessment exercises draw on data available within universities, perhaps like annual student reporting submissions in the learning and teaching domain.

These kinds of disadvantages may be especially acute when applied, as the Report suggests, to the use of metrics to measure collaboration and translation between industry and university, and government and university. We recommend an evaluation process that seeks to augment quantitative metrics with methods that capture less measurable translation pathways and research benefits; for example, pathways that lead to social cohesion and creative capacity (as per the recently released *Impact Assessment of ARC-Funded Research*, <https://www.arc.gov.au/news-publications/media/feature-articles/research-excellence-delivering-exceptional-outcomes-australia>, see more in Section 5).

Finally, work by international organisations striving for research assessment reform highlights the risks of driving desired research behaviours via metrics alone. Whereas the Report suggests that ‘the very act of measuring [interactions between researchers and end-users] will almost certainly have the effect of improving the interactions’ (p.110), others have argued that hyper-competitive measurement systems can lead to negative behaviours that undermine research quality and integrity (see for example, [https://rori.figshare.com/articles/report/ Excellence in the Research Ecosystem A Literature Review RoRI Working Paper No 5 /16669834](https://rori.figshare.com/articles/report/Excellence_in_the_Research_Ecosystem_A_Literature_Review_RoRI_Working_Paper_No_5_/16669834)). Intended as well as unintended effects of new measurement regimes should be carefully considered.

### **3. Prioritise embedding and promoting of First Nations research and knowledge systems**

Macquarie strongly supports the Report’s focus on the importance of embedding and promoting First Nations research and knowledge systems within universities and the broader community. Macquarie offers financial and administrative support to First Nations research and has developed processes for promoting best practice for research conducted with and for First Nations people.

**Case Study:** The Centre for Global Indigenous Futures is a Research Centre within Macquarie’s Faculty of Arts. It is First Nations-led, and centres First Nations priorities of Indigenous leadership, relationships first, material equity and community benefit. The Centre applies First Nations knowledge systems to contemporary issues such as Indigenous digital communities, gender identity, data sovereignty, and language and cultural recovery. Its industry partners include global social media companies while its community partners include Indigenous LGBTQIA+ organisations.

It is vital that promoting First Nations knowledges is approached sustainably and is supported by First Nations workforce capacity building in universities, government and industry.

#### **4. Minimise administrative burden for universities**

Macquarie is one of many universities who previously expressed concern re administrative burden of ERA. We therefore concur with the Report's recommendation to discontinue ERA and EI in its most recent form, as proposed by the *Review of the Australian Research Council Act 2001*. We welcome changes that translate into 'less labour-intensive processes' for future research assessment exercises.

However, recent reports, surveys and discussions around the ARC and Universities Accord flag a range of research-related aspects, which various stakeholders believe should or could be captured and assessed. These include: research quality, current and future research capabilities, workforce or capacity building, engagement, commercialisation and innovation, the usefulness of research, diversity and inclusion, quality and excellence balanced with integrity, and the benefits of the NCGP program.

Although many universities, like Macquarie, already capture and report on many of these elements as part of their quality assurance and accreditation practices, we are wary of an outcome in which universities are required to undergo and resource many overlapping, targeted assessments. This may be especially true if multiple, existing exercises are repurposed in some fashion rather than a new, lean assessment enterprise built from scratch. We join with the Accord Panel and the ARC in hoping to avoid duplicated effort and unsustainable administrative burden.

We recommend that relevant stakeholders (including the ARC, TEQSA, and the Department of Education) work together to streamline assessment exercises. An ideal outcome would be a single (or small set of), coherent exercise/s versus a host of separate exercises and assessments.

Relatedly, we acknowledge the intent to reduce administrative burden via 'less labour-intensive processes' that harness new data technology. However, a 'light touch automated metrics-based approach' without additional contextual information and peer review is inconsistent with international reforms.

The Report recognises that data-driven approaches should be supplemented by peer review to offset the shortcomings of bibliometrics. This raises the question of how much less labour-intensive such new approaches can be. We recommend that peer review be scaled and timed less intensively in future exercises to reduce the burden experienced by peer reviewers, especially those from HASS disciplines. Similarly, we recommend that the cadence of measurement or calculations for other elements of performance (e.g., interactions, value and impact) also be considered in terms of burden once the overall assessment regime expected of universities under the new Accord is clearer.

#### **5. Broaden language around innovation, translation and benefit**

We note that in some places, the Report seems to separate the idea of 'innovation' from research and links innovation to a narrow range of 'high impact innovation outputs', these being 'new processes, products and services' (p. 92). While this conception of innovation is consistent with some definitions in use, it may undervalue the innovation inherent in much fundamental discovery research.

We acknowledge that the translation of research into impacts defined as new processes, products and services is one important mechanism in the research impact pathway and is the focus of the Global Innovation Index. However, there are other ways in which research can be translated, and other innovative impacts of research. Evaluations of Australian universities' research impact

should accommodate all these pathways and potential impacts. The Report's current description of the pathway from research to benefit potentially limits the diverse ways that research can be translated and used, and thus counted as 'innovation outputs'.

We recommend that the full range of mechanisms, or levers, for translating research into impacts for community, government and industry stakeholders be acknowledged. This includes (not an exhaustive list): (a) developing transformative technologies, (b) transforming practices in the public and private sectors, (c) influencing policy and legislation, (d) increasing cultural understanding and creative capacity, (e) generating social cohesion and inclusion, and (f) when research is used to inform further research.

The NHMRC Investigator Application Guidelines (2023), for example, offer a broad-ranging set of possible evidence of research impact that demonstrates the breadth of measures that could be considered.

## **6. Adopt sector-wide network modelling to identify nationally significant research capabilities**

The Report stresses the importance of keeping 'universities, industry and government informed of nationally significant research problems, and of nationally significant research capabilities in the higher education system'. We recommend that this be achieved via near-real-time or prospective network modelling to reveal patterns of strength in research quality and impact across disciplines and across Australia. Rather than (somewhat overlapping) audits of quantum within universities, which can encourage competition and process 'gaming', a more nationally focused capability audit could report on the scale, depth and strength of research expertise, quantum and success across institutions, within and across disciplines. This would provide robust information about the university sector's research capabilities and help identify the best opportunities for partnership and investment.

The Engineering and Physical Sciences Research Council in the UK offers a good example of this approach implemented well. Such an approach would do more to demonstrate the usefulness of research, share best practice, and identify national gaps and opportunities than comparing universities against each other and applying rating scales that most members of the public do not understand.

## **7. Collaborate on and pilot implementation of future research assessments**

We recommend that universities continue to be closely consulted when designing frameworks and measures for evaluating Australia's research. Specifically, we recommend that any intended future national research assessment processes be piloted in collaboration with the sector. And we recommend that future exercises incorporate the findings of international reform movements and organisations (as per Section 2 above) and models of best practice that they endorse.

## **Attachment 2. Areas of Agreement and Disagreement The Future of Research Training in Australia**

Macquarie University welcomes discussion of the importance and value of building Australia's research workforce, research capacity and broader workforce for the future via research training. In this attachment, we respond briefly to the Report's suggestions for postgraduate level research training in: (1) Section 2.2, *Meeting Australia's Future Skill Needs*, (2) Section 2.5, *Fostering International Engagement*, and (3) Section 2.7, *Research, Innovation and Research Training*.

### **1. Meeting Australia's future skill needs**

In Section 2.2's considerations for change (p. 66), the Report suggests *'improving skills pathways by creating qualifications that are more modular, stackable and transferable between institutions and institution types'*.

Macquarie endorses and encourages this approach to research training. We note the alignment of this model with our unique research training pathway, which is built around a stackable Masters program with coursework training in the first year and a one-year research dissertation in the second year.

### **2. Fostering international engagement**

In Section 2.5's considerations for change (p. 96), the Report suggests *'promoting flexibility and innovation in international education, including digital and offshore delivery options'*.

Macquarie welcomes this emphasis on innovation and flexibility in international education. We embrace the principle of international education in research training through a mature and extensive existing program of global PhDs. These programs provide candidates with global perspectives and facilitate international research collaboration, which fosters innovation and increases impact. To support such initiatives, we encourage the Government to consider removing or relaxing the 10% cap on the amount of Research Training Program (RTP) funding that can be used to support overseas students. Current rules require 90% of RTP to be spent on domestic students, which limits investment that can be made in global PhD, international and/or co-tutelle students. Consideration also should be given to incentivising internationally engaged PhDs through the RTP funding allocation formula in the same way that industry engagement is incentivised.

### **3. Research, innovation and research training**

In Section 2.7's discussion of *'Building our research capacity through research training and developing our research workforce'* (2.7.1.4, p. 108), we note the Report's comment that there is little information about whether we are producing sufficient PhDs in the right areas, and an absence of a national framework driving data collection or forward research workforce planning.

Macquarie welcomes analysis of the career destinations and skills utilisation of research graduates at the national level. These data would help graduate researchers to better understand the range of employment options available to them and would help universities to monitor where their graduates are employed, so that they can develop institutional partnerships with employers and provide more informed career advice. These data also would inform the design of training programs/ skill development frameworks to better support career transition processes and increase awareness of the value of research qualifications to industry, both for STEM and non-STEM disciplines.

Relatedly, in Section 2.7's considerations for change (p. 114), the Report suggests '*developing a national, holistic policy for research training*'.

We are not yet clear on what this would entail. While Macquarie supports a national set of guidelines or principles for research training, a national policy might inadvertently stifle innovation in research training and hamper the ability of institutions to design research training programs that suit their cohorts and research areas.

In Section 2.7's consideration of policies and strategies to share and translate university research more effectively (p. 114), the Report suggests '*establishing a target for the number of PhD candidates employed in industry undertaking a PhD relevant to their firm*'.

Macquarie supports further consideration of a national target for industry-embedded or industry researcher PhDs, to incentivise engagement of both universities and industry sectors. Targets would need to consider disciplinary differences as well as differences between universities and sectors of the economy. Additional funding would also be needed to assist universities in creating the supporting operating models within their Graduate Schools to successfully deliver these programs. Importantly, based on our experience of the value of stackable Masters and PhD training programs, we recommend that incentives and targets for engagement with industry be extended from PhDs to Research Masters.

Section 2.7 concludes by offering several proposals for '*Improving the research training system to support and attract students to research careers*' (p. 115). These include:

- a. increasing PhD stipend rates,
- b. offering postgraduate and postdoctoral researchers extra skills-oriented training in parallel with PhD study or postdoctoral work,
- c. creating research training targets for equity groups,
- d. encouraging taxation adjustments to make industry-linked and part-time research training scholarships tax free, in line with full-time scholarships, and
- e. encouraging institutions to offer innovative PhD and professional doctorate models, including using portfolio, project, and multi-part dissertation formats and revitalising HDR coursework offerings.

*Increasing PhD stipend rates.* While higher stipend rates would be well received, universities already have flexibility to increase stipends up to the maximum RTP rate. Without a meaningful increase in the RTP funding pool, beyond indexation, the cost burden of increased stipend rates would sit with universities, who already heavily subsidise the cost of research training (at rates estimated between 30-70%). Higher stipends in the absence of increased funding would reduce the number of students that universities could support, significantly impacting our research capacity and workforce.

*Offering postgraduate and postdoctoral researchers extra skills-oriented training in parallel with PhD study or postdoctoral work.* Macquarie strongly supports this suggestion, which is aligned with our current practices both for research training candidates and for early career researchers. For example, our Graduate Research Academy recently has completely refreshed its graduate researcher development framework to focus on:

- a. Thinking, developing the knowledge, skills and strategies to conceptualise, analyse and deliver fresh perspectives and creative solutions to global challenges,
- b. Growing, developing the personal qualities to self-manage, build effective relationships, develop networks and target opportunities relevant to personal aspirations,

- c. Delivering, developing the knowledge and skills to plan, execute and deliver ethical and sustainable projects with integrity and professionalism, and
- d. Leading, developing the leadership and communication skills to influence ideas, disseminate information and drive solutions to cultural, social and environmental challenges.

*Creating research training targets for equity groups.* Macquarie also strongly support targets for equity groups participating and succeeding in research training programs. Although incentives to ensure the success of First Nations HDR candidates already are built into the RTP formula, additional funding returned through the block grant is delayed significantly from time of completion. This does not adequately fund universities to develop and deliver required support systems to scaffold the success of members of equity groups. To enable universities to meet targets for equity groups, we recommend increased funding for effective support mechanisms.

*Encouraging taxation adjustments to make industry-linked and part-time research training scholarships tax free, in line with full-time scholarships.* We support this proposal and view it as a viable mechanism to incentivise industry embedded or linked PhD partnerships, students and success.