Innovative Research Universities

Growing industry internships for research PhD students through the Research Training Program – IRU Response

The Innovative Research Universities (IRU) supports the Australian Government's intention to provide additional funding and financial incentives to support PhD industry internships. IRU members have strong and established engagements with industry and local communities, which are leveraged in existing PhD training. The additional Research Training Program (RTP) funding will increase opportunities for PhD candidates to engage with industry during candidature and support deeper forms of engagement with more stakeholders. Overall, the additional funding has potential to be part of a sound, long-term strategy to support PhD employability and university-industry collaboration, addressing the skills and cultural needs for research translation.

IRU members support most elements outlined in the Implementation Paper. These include:

- Broad definition of internship (including paid or unpaid R&D);
- Broad definition of research end user (including public sector, community and not-for profit orgnisations);
- Prioritising longer forms of engagements of at least three-month duration; and
- Revising the TCSI data collection to include full-time equivalent days for research internships.

The main concern of IRU members is the strict definition for the commencement of the internship within the first 18 months of enrolment. This lies outside the scope of the Implementation Paper questions but it is critical to meeting the stated goals of the RTP changes. The restriction should be reconsidered and we outline our rationale for this below. If the Government insists on restricting RTP funding to industry engagement early in PhD candidature, then they could follow the ACGR position on Implementation of RTP Changes and include internships that are planned for as part of confirmation of candidature, but occurring later in candidature.

The design of the RTP changes should also ensure maximum flexibility to accommodate part-time and virtual/remote internships. The Government should also consider implications for international students who may not be able to undertake internships during leaves of absence.

The implementation paper correctly recognises that the number of research PhD graduates has grown at a greater rate than opportunities to gain employment in academia. PhD internships have been shown to provide broader skills development, with longer and deeper forms of external engagement shown to have greater positive impact on skills and careers compared to shorter forms. However, the employability rationale for PhD internships ought not be overstated. Australian PhD employability remains strong with over 90% of HDR graduates employed immediately after graduation (over 80% in full-time employment). The imbalance between employment opportunities within and outside academia is also nuanced. Australian domestic PhD completions have increased at a rate of less than 2% per year over the past 15 years. While this is sufficient to meet the growth in the university workforce, it is not sufficient to address skills gaps and absorptive capacity in business that may be inhibiting collaboration. It is for this reason that PhD internships that are inclusive of all disciplines and international students be considered carefully.

The proposed revisions to the data collection appear appropriate, allowing for the Government to collect data on internships of all durations and commencement dates. This provides a future opportunity to re-examine empirically the relationship between internship duration/commencement dates and graduate outcomes, and provides flexibility for future modifications to the RTP formulae.

By introducing a new weighting for PhDs with internships while maintaining all other weightings constant and not including research masters, the changes to the RTP formulae will reduce the funding for research master completions. Although disincentivising research master completions may not be the intent of these changes, it may lead to that outcome.

The IRU rationale for providing greater flexibility in the design of the RTP changes to support PhD internships is outlined in further detail below, along with the direct response to the Implementation Paper questions.

IRU recommendations

1. The Government reconsiders the requirement that the PhD internship commence within the first 18 months of enrolment, or as an alternative, follows the ACGR position on Implementation of RTP Changes and include internships planned for as part of confirmation of candidature.
2. Provide maximum flexibility to accommodate part-time and virtual/remote internships.
3. Consider implications for international PhD candidates that may need to take leaves of absence for internships.

Rationale for flexibility in RTP funded PhD internships

The proposed changes are designed to modify the financial incentives in to achieve three core goals:

1. Increase university and industry collaboration;
2. Support students to build stronger industry-relevant capabilities, professional networks and employment pathways beyond academic roles;
3. Support industry to absorb research and innovation ideas by hosting PhD students and encourage the recruitment of high-calibre PhD graduates.

IRU members strongly support each of these goals. However, the restriction of internships to the first 18 months of enrolment is inconsistent with the Australian Council of Graduate Research's (ACGR) and Australian Industry Group's (AIG) co-developed Good Practice Guidelines for enhancing university-industry engagement. These guidelines recommend that the scope, timing and length of interaction be determined by the mutual needs of PhD candidates, supervisors and industry partners. Universities have used these guidelines and principles in developing existing industry PhD internships. A shift in university principles after the implementation of the RTP changes will potentially lead to the perception by industry that universities are difficult to work with.

By design, universities will become incentivised to prioritise internships that meet RTP funding requirements, rather than stakeholder needs. Although universities will remain free to structure (unfunded) internships around the mutual needs of key stakeholders, the financial incentives may have unintended consequences. This may be most acute in "low cost" fields of education where internships in the first 18 months of enrolment will generate double the RTP revenue.

The implementation paper appears to prioritise early engagement with industry on the assumption that this will better enable PhD research "to be shaped by current and future industry needs" and provide employment and research translation pathways. These three rationales – current industry needs, future industry needs and employment/translation pathways – are distinct and may be best served by internships at different stages of candidature. For example, it is plausible that early engagement can help facilitate alignment between PhD research and current industry needs, but meeting future industry R&D needs may better served by PhD internships targeting translation and application later in candidature, *after* the research has been conducted or more fully developed. Similarly, supporting new employment pathways and recruitment of high-calibre PhD graduates is more likely to be effective later in candidature, rather than by imposing a two-year gap between the internship and graduation.

Early-stage engagement with current industry R&D needs and later-stage translation to meet future needs are both important, with relative importance differing by student, industry partner and field of research. Ideally the RTP incentives structure would support both. Doing so would align the RTP changes with the Government's consideration of PhD internships in the University Research Commercialisation Consultation Paper and the National Priorities and Industry Linkage Fund (NPILF), neither of which consider a restriction on the timing of the internship as desirable.

IRU Response to the Implementation Paper Questions:

1. Optimal structure of an internship

Within the eligibility criteria of an industry internship commencing within 18 months of a student's enrolment in a research PhD and consisting of three-months (a minimum of 60 full-time equivalent (FTE) days of engagement), what do you believe is the optimal structure of an internship? For example, one intensive block, a number of days per week on a regular basis, other part-time approaches. Provide supporting detail.

Flexibility is preferable. It is difficult to see any valid reason for how restricting the internships to an intensive full-time block is desirable for meeting the stated goals of the RTP changes. PhD candidates, their supervisors and industry partners are best placed to decide how an internship can be accommodated and support a candidate and industry partner. A variety of arrangements, including an intensive block, intermittent, part-time and even virtual internships, would be productive, appropriate and of most benefit to the student, the supervisor and the industry partner. For example, an intensive basis may be more suitable for internships that involve intensive data collection and/or relocation, whereas a part-time may better suit longer term data collection, research problem consultation/supervision, partnerships with local industry and virtual placements. However, the key issue is that such flexibility is also crucial for the timing of the internship beyond the first 18 months.

2. Timing of institutional data collection

When will your university collect the changed HDR end-user engagement data, including days of engagement with a research end-user, and how do you propose to do so?

The IRU has no comment. This question is best answered by individual universities.

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3. Level of change required to meet reporting requirements

What level of change is required at your university to set up systems and procedures to report the revised data collection to the Department commencing in 2022?

Some IRU members are concerned that the reporting relating to the counting of the 3-month engagement within the first 18 months will require universities to develop new reports and to seek additional information from industry separate from existing industry PhDs agreement collections.

4. Support materials for data collection

What type of support materials could be developed to best ensure the collection of accurate and comprehensive data by universities? For example, good practice guidance for administrators and students, frequently asked questions, annual information sessions, other?

This question is best answered by individual universities, but it is important that data is reported consistently and accurately across universities and fields of research. Some IRU members have suggested the following resources would be useful:

- Frequently Asked Questions (FAQs) that confirm the parameters and requirements of the scheme;
- Recommendations that will help universities ensure compliance of internships with the Fair Work Act;
- Public case studies of successful partnerships, with discipline-specific examples;
- Guidance on generic responsibilities of the three parties involved: candidate, University and industry partner;
- Guidance and/or examples of how the industry partnership can be integrated and expressed in the final research thesis submitted for the degree.

5. Top three aspects of data collection needing to be addressed

In relation to these supporting materials, what are the top three aspects of the new data collection that would need to be addressed?

This question is best answered by individual universities, but some IRU members have listed the below as important aspects for data collection:

- Agreement templates.
- Clarity about the parameters of the internship models available in the PhD.
- Clarity regarding requirements for the length of the joint supervisory arrangement (if any) and the terms “actively engaged in the student’s HDR”.
- Confirmation on when data for funding purposes need to be extracted by DESE.

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6. Additional data on HDR end-user engagement

What additional data on HDR end-user engagement, if any, should the Department collect to inform future Government or sector policy development? Provide reasons.

None. Fitness for purpose and consistency over time are important. Industry engagement occurs along a continuum of which internships are just one component, but additional data would place additional reporting responsibilities which are already significant.

7. Other critical issues

Are there any critical issues regarding implementation of the proposed changes that you would like to raise?

The 3-month placement will ordinarily be part of the PhD enrolment period, but the impact on PhD progression is unclear and may have inequitable outcomes for international PhD candidates.

The TCSI definition provides for internships to be undertaken during a HDR period of suspension. This may be possible for domestic candidates, but not for international candidates. Visas and leave of absence periods are restrictive for international candidates. To maintain a visa an international candidate must maintain enrolment, unless for compelling and compassionate grounds. International candidates on scholarships may be left without financial support if internships are taken during leaves of absence. If internships are taken during enrolment, international candidates may face problems of progression.

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