

## Walking on Eggshells—Navigating Interdisciplinary Graduate Research in Australia

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Because interdisciplinary research can have an array of different meanings, a broad definition has been applied in the context of this paper.

*Interdisciplinary research integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines to solve problems whose solutions are beyond the scope of a single discipline.<sup>2</sup>*

In this paper, interdisciplinary research in Australia will be addressed in the context of national structures and challenges as well as be examined through the eyes of a recent graduate from an interdisciplinary research program.

### **National Context**

Australia, like most developed nations, has a national research agenda with excellence at its core. Assessment of university research outcomes is conducted via Excellence in Research Australia (ERA), a performance measure informed by the equivalent research assessment exercise originating in the United Kingdom. In ERA, research outputs are assessed in 22 fields of research (FoR) which are largely comprised of traditional single disciplines. The behaviour that is driven is that interdisciplinary research is categorised under a single, primary discipline. Thus, as a result of the predominantly single discipline categorisation of FoR, interdisciplinary research is not easy to capture.

This categorisation by FoR permeates the major national grants schemes under which research proposals are evaluated by disciplinary panels. Interdisciplinary proposals that span disciplines and use mixed methods are typically evaluated by the primary discipline nominated and may fail to be understood or valued by the panel. Driving grant allocation via these practices tends to discourage applicants from submitting such interdisciplinary proposals and, once submitted, may disadvantage their success.

As formation of disciplinary silos tends to be unintentionally driven by national agendas and practices, this trickles down to affect institutional agendas which, in turn, tend to support the same behaviours. The consequence of this behaviour can be that interdisciplinary research is not valued according to the maxim “if it can’t be measured, it doesn’t have value.” Institutions themselves need to make a conscious decision to strategically invest in interdisciplinary research strategies in order to achieve successful interdisciplinary outcomes. To justify this investment

<sup>1</sup> With thanks to Dr. Johannes Luetz for discussions on the graduate researcher perspective. <http://www.ies.unsw.edu.au/our-people/dr-johannes-luetz>

<sup>2</sup> See [http://www.nsf.gov/od/iaa/additional\\_resources/interdisciplinary\\_research/definition.jsp](http://www.nsf.gov/od/iaa/additional_resources/interdisciplinary_research/definition.jsp)

decision, they need to determine the value of interdisciplinary research to their institution. In the area of graduate research, national standards can also impact on candidates choosing to do interdisciplinary research and on how the outcomes are examined. As discussed, most institutions promote research excellence and this is what attracts candidates. Given that interdisciplinary research tends to be more difficult to capture and assess, it often does not have the visibility that is achieved by traditional single discipline research projects.

Australian thesis examination is an example of how national assessment practices may impact on PhD candidates choosing to conduct interdisciplinary research or on whether they survive the experience. Thesis examination in Australia is a robust review process that typically involves appointment of two or three independent, external examiners. This approach is unique and can be a challenge for theses that result from interdisciplinary projects. Finding examiners either with interdisciplinary expertise or those within single disciplines who are sympathetic to the interdisciplinary approach can be problematic.

### **Perspectives of a Graduate Researcher**

An interview with a PhD graduate who recently completed his studies at UNSW Australia was used in preparing this paper. The PhD topic of the graduate was *Climate Migration: Preparedness Informed Policy Opportunities Identified During Field Research in Bolivia, Bangladesh and Maldives*. The research involved mixed methods approaches and required an understanding at appropriate depth of several disparate disciplines including climate science, law, social science and development studies. The key challenges encountered related to the need to have a deep understanding of multiple disciplines, the sheer volume of learning and the continual need to keep up with the knowledge and skills required in multiple fast moving research disciplines. The statement that resonated most during the interview was that doing interdisciplinary research was “like walking on eggshells, wondering whether the research would satisfy the experts across all of the disciplines spanned.”

Other challenges to the graduate that were noted included that it was necessary to form multiple networks and navigate multiple research cultures. Close mentoring in the early stages is required to support candidates grappling with this complexity and if candidates are not self-motivated they may experience significant delays in their research.

While there is a strong case for more investment in interdisciplinary research due to, as eloquently stated by the graduate, “its capacity to provide a more comprehensive analysis of complex global issues,” the perception was that a higher value is placed on research with a focus on excellence measured by traditional research metrics compared with that producing “public good” outcomes.

The promise that interdisciplinary research delivers on is that the approaches to solving complex research problems are more holistic and provide more comprehensive and informed outcomes. While clearly not suited to all research problems, interdisciplinary research approaches have the potential to be more broadly applied to many areas that are traditionally focussed within single disciplines. The challenges are significant, and improved education and promotion of the benefits of interdisciplinary research is needed to influence national research agendas and, ultimately, challenge the global norms for measuring research success.