Submission to
Australian and New Zealand Standard Research Classification Review 2019

Network of Interdisciplinary and Transdisciplinary Research Organisations – Oceania

Appropriately classifying interdisciplinary and transdisciplinary research

As the newly constituted peak body for inter- and trans- disciplinary research in the Oceania region, we welcome the research classification review, especially its willingness to consider the appropriate classification of multi-, inter- and trans- disciplinary research. We note the dearth of international exemplars to draw on and applaud the review's global leadership on this topic.

We recognise the challenges involved in multi-, inter- and trans- disciplinary research and that it will take time for a fully workable system to evolve. We are keen to play a key role in further developments and suggest specific actions and collaborations below.

We address selected questions:

ANZSRC Principles

1. Are the principles of the Review outlined in Section 2 of the Discussion Paper appropriate and sufficient? Do any further overarching principles need to be considered in developing the revised ANZSRC?

We applaud the guidance provided by a clear set of principles. We particularly note the principle of "Exhaustiveness," which is essential for an appropriate and fair consideration of multi-, inter- and trans- disciplinary research.

We also note that proper consideration of multi-, inter- and trans-disciplinary research may require some rethinking of the principles of "mutual exclusivity" and "statistical feasibility." A high percentage of projects tackling complex societal and environmental problems involve a mix of discipline-based, multidisciplinary, interdisciplinary and transdisciplinary research and the mix of these elements may change over the course of the project. While this should fit within the current conceptions of "mutual exclusivity" and "statistical feasibility," further elaboration of multi-, inter- and trans- disciplinary research in light of these principles is warranted.

We recommend the addition of "Evidence-based" as a further principle. Given that multi-, inter- and trans- disciplinary research cover a wide range of research practices, the classificatory system must encompass that diversity effectively and to do so will first need to understand that diversity.

ANZSRC Classifications

Type of Activity

2. What suggestions do you have to improve the ToA component of the classification?

While we do not have specific suggestions for improvement, we note that multi-, inter- and trans-disciplinary research could occur in any of these four areas. A large research project on a complex global problem, which encompasses a mix of discipline-based, multidisciplinary, interdisciplinary and transdisciplinary research, could also encompass two or more of these types of activity.

Fields of Research

10. How can the FoR codes better capture interdisciplinary/multidisciplinary research, and at what level (e.g. Field, Group, Division)?

There are a number of issues that require consideration. It is useful to start with three kinds of research relevant to this topic:

- research that studies and seeks to improve the practice of multi-, inter- and trans-disciplinarity
- research that fits neatly into a category of multidisciplinary or interdisciplinary or transdisciplinary
- research on a complex global problem that encompasses two or more elements of discipline-based, multidisciplinary, interdisciplinary and transdisciplinary investigation.

It is also useful to point out that multidisciplinary, interdisciplinary and transdisciplinary are used in two ways.

First, they are used generically to indicate research that brings together and acts on different strands of disciplinary and other knowledge (other knowledge includes perspectives of stakeholders and decision makers, and indigenous knowledge) to address a complex global problem.

Second, interdisciplinary and transdisciplinary are used specifically to refer to their respective established canons of scholarly work. For example, there is a specific way of approaching interdisciplinarity which is described in the *Oxford Handbook of Interdisciplinarity* and promulgated by the *Association for Interdisciplinary Studies* which publishes the journal *Issues in Interdisciplinary Studies* and runs an annual conference. The specific ways of approaching inter- and trans-disciplinarity do not just deal with complex global issues but can also be used to deal with straight-forward problems such as the cultural heritage of country music or building a mobile phone application to monitor a health condition.

Opening up consideration of multi,- inter- and trans- disciplinarity raises the question of whether other specific approaches with canons of scholarly work should also be included in reviewing FOR codes. These include systems thinking, action research, sustainability science, design science, implementation science and the science of team science.

We do not envisage that all these issues will be encompassed in the current review. We also note that there are divisions within the scholarly community about definitions and practices. For example, US researchers tend to see transdisciplinarity as developing an overarching synthesis framework, whereas European and Oceania-based researchers tend to see it as trans-sector participation of stakeholders in both research on complex problems, and implementation of solutions.

As the newly constituted peak body for inter- and trans- disciplinary research in the Oceania region, we see part of our mission as charting a path through the different understandings outlined above. The review's call to develop appropriate FOR codes is both a motivator for resolving these differences and a beneficiary of such resolution. We see this as requiring a decadal plan with biennial milestones and anticipate evolving adjustments to the FOR codes.

We would be pleased to work with the research classification review in:

1) developing a position paper that comprehensively covers the challenges we outline
2) establishing the decadal plan for resolving differences and refining appropriate FOR codes
3) hosting or co-hosting a series of workshops in Australia and New Zealand to collect evidence about the different ways multi-, inter- and trans- disciplinarity are practiced in our two countries in order to establish durable long-term changes in FOR codes
4) implementing the decadal plan.

We suggest that there are three topics that could be addressed and resolved by the current review, namely developing and assigning FOR codes for:

a) research that studies and seeks to improve the practice of multi-, inter- and trans-disciplinarity.
b) interdisciplinary research that addresses a straight-forward problem by 'borrowing' and integrating tools and concepts from multiple, often disparate, fields of research into one research activity
c) research that works closely with stakeholders (those affected by the problem under investigation) and decision makers (those in a position to do something about the problem under investigation), which we suggest should be referred to as 'transdisciplinary.'

Implementation

17. How would you (or your organisation) be affected if ANZSRC changes?

As a network of leaders fostering inter- and trans- disciplinary research and education within and across organisations, we represent a range of research and education organisations in Australia and New Zealand (as well as the rest of Oceania) – see the list of signatories below. Our mission is inspiring and supporting researchers to achieve transformational impact on global challenges. The current lack of recognition of multi-, inter- and trans- disciplinary research in the research classification system is a significant barrier to the full development of these research activities and to the career prospects of those involved. More significantly it hampers the development of effective responses to urgent global challenges.

19. How frequently should the ANZSRC be updated in the future? What advantages or disadvantages would there be if, in future, ANZSRC was updated dynamically and on an ongoing basis in response to stakeholder feedback?

As outlined earlier, we would welcome dynamic updating as we recognise that it will take some time to evolve a fully workable system to classify multi-, inter- and trans- disciplinary research especially from the current "standing start".

Submitted by Gabriele Bammer for the following members of the Network of Interdisciplinary and Transdisciplinary Research Organisations – Oceania

Derrick Armstrong	Deputy Vice Chancellor Research, Innovation and International, The University of the South Pacific
Gabriele Bammer	Head, Integration & Implementation Sciences, Research School of Population Health, The Australian National University
Paul Bertsch	Science Director, CSIRO Land and Water
Andrea Byrom	Director, New Zealand's Biological Heritage National Science Challenge
Chris Cocklin	Provost, James Cook University
Jenny Dixon	DVC Strategic Engagement, University of Auckland
Iain Gordon	Deputy Vice-Chancellor, Tropical Environments and Societies, James Cook University
Nicky Grigg	Chair, Land and Water Science Council, CSIRO
Bronwyn Harch	DVC-R, University of Queensland
Mark Howden	Head, Climate Change Institute, The Australian National University
Ken Hughey	Chief Science Advisor, NZ Department of Conservation
Chalapan Kaluwin	Dean, School of Science, University of Papua New Guinea
Stewart Lockie	Director, The Cairns Institute, James Cook University
Teatulohi Matainaho	CEO/Chairman, PNG Science and Technology Council

Laurent Rivory	PVC-R, University of Sydney
Roger Robson-Williams	General manager of science - sustainable production, NZ Plant and Food Research
Allanah Ryan	Director Sustainability, Massey University
Ken Taylor	Director, Our Land and Water National Science Challenge, New Zealand
Erika Techera	Former Director, Oceans Institute, University of Western Australia
Dan Walker	Chief Scientist, Australian Centre for International Agricultural Research (ACIAR)
Liz Wedderburn	Assistant Research Director, NZ AgResearch
Stuart White	Director, Institute for Sustainable Futures, University of Technology Sydney