Opportunities for operationalizing transdisciplinary research for long term wellbeing and resilience of human, ecological and ecosystem health

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FLOURiSH! Interdisciplinary solutions for a thriving planet

A THEO MURPHY INITIATIVE

Australian Academy of Science

Griffith UNIVERSITY | QUT Centre for Data Science | The University of Queensland | CBCS Centre for Biodiversity & Conservation Science
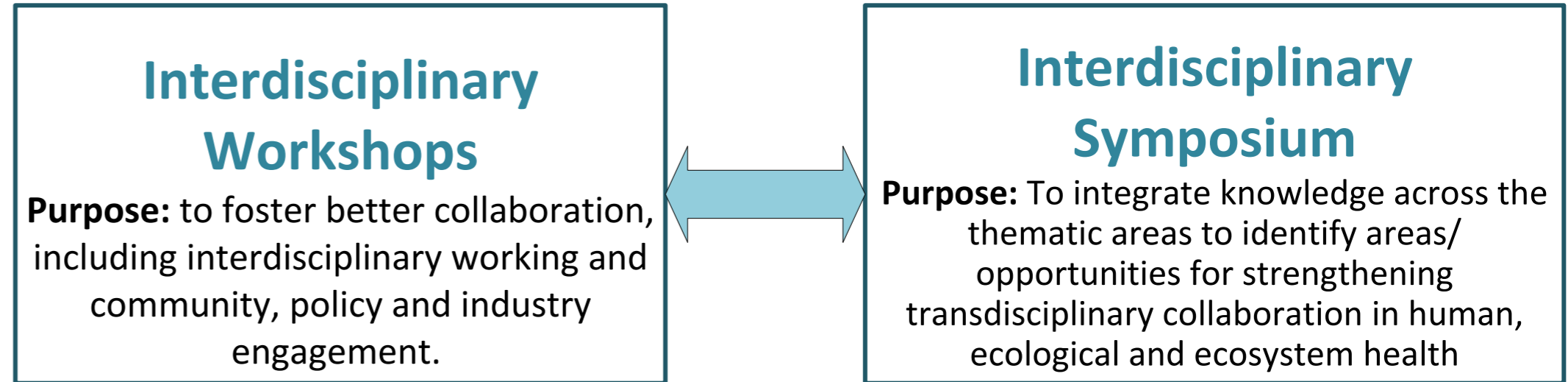
1. How do we define transdisciplinary research?
2. How do we integrate knowledge across boundaries of discipline and boundaries of scale?
3. How do we identify and incorporate stakeholder inputs?
4. How do we engage with communities?
5. How do we communicate effectively with policy?

Connecting early and mid-career researchers interested in transdisciplinary collaborations

Interdisciplinary Workshops

Purpose: to foster better collaboration, including interdisciplinary working and community, policy and industry engagement.

Interdisciplinary Symposium

Purpose: To integrate knowledge across the thematic areas to identify areas/ opportunities for strengthening transdisciplinary collaboration in human, ecological and ecosystem health

Barriers to conducting transdisciplinary research

Importance of interdisciplinary not understood/acknowledged/prioritised
- "Issues with recognition of interdisciplinary research, considered not strong enough in its design by scientists from each discipline"
- "there are still some people that only have a tunnel vision approach, and won't look at a broader scale. So convincing people that we need to look at research from multiple avenues can sometimes be hard"
- "Intersectionality - allowing a broader acceptance that there are different interpretations to challenges and governance. Especially when trying to understand the complex entanglements and different perceptions of citizens involved in resource and environmental management."

Communication
- "The communication is difficult to understand due to jargon"
- "Navigating epistemic differences and establishing a common "language" to conceptualise the issues we are all working on"
- "agreeing on how to communicate interdisciplinary research to both peers and the general public"

Finding and trusting collaborators
- "Confidence in the expertise of others when you do not understand their work!'
- "Gate-keeping"
- "Lack of spaces for interdisciplinary exchange of ideas between practitioners and researchers"

Career/ funding/ publishing challenges
- "It's difficult to argue the value of interdisciplinary research to national funding schemes and be successful with grant applications"
- "challenging to do excellent research in multiple disciplines at the same time, leading to compromises"
- "My research is too science-y for the social science grants, and too heavy on the social sciences for the traditional science grants"

Logistics or other
- "Being brought in too late to a team. It is common for social scientists to be asked to join an interdisciplinary team after the project has been established, meaning we do not have an opportunity to have input into the funding applications, project planning, design, and methods"
- "Obstacles in institutions of governance (i.e. people are set in their ways, not open to changing the status quo)"
- "being unsure where I fit in the research puzzle, as my research doesn't fit neatly into the social sciences or the more biological sciences, and so it is difficult to find a place where I belong within a University system that has clear distinctions on social sciences vs the more environmental or biological sciences"

A Transdisciplinary Research Playbook:
Key actions to advance research for human, ecological and ecosystem health

Structural – interdisciplinary approaches are disregarded/ not considered

Raise awareness and promote the importance of interdisciplinary/transdisciplinary work:
- EMCRs can work with a multidisciplinary team of supervisors to create a culture of working with a diverse team
- Establish criteria for grants assessing interdisciplinary focus
- Defining a transdisciplinary impact framework
- Increasing transdisciplinary focus in curricula, particularly on ethics and values
- Develop a transdisciplinary mentoring scheme where senior people are open to supporting new ideas.

Communication – differences in terminology, approaches and epistemologies

Identify methods/approaches for communicating across disciplines:
- Define what transdisciplinary projects are; who transdisciplinary individuals are and what are their characteristics, and; what a transdisciplinary team is
- Collection of case studies that illustrate how transdisciplinary people work, how they are successful, what they do, and what expertise they bring
- Identify/create multidisciplinary, interdisciplinary or transdisciplinary /
- classifications (eg. drop-down boxes) to describe the research area

Collaboration & Trust - how do we work better together?

Establish knowledge, skills, behaviours and resources available or needed to work together better, including with communities and other stakeholders:
- Develop a code of conduct, which includes having knowledge of your local context, incorporating indigenous knowledge, behaviours - openness, listening, and being a 'good' citizen.
- Define key criteria for building a respectful and collaborative team based on finding the common ground" (which might not be within research)