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Co-producing knowledge with Indigenous Peoples: challenges and solutions for academic institutions

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Co-producing knowledge with Indigenous partners may be required for research on Indigenous Lands and Waters. However, academic paradigms challenge the development and maintenance of partnerships with Indigenous communities. As researchers with experience co-producing knowledge with Indigenous partners, we share challenges to this work and provide actionable solutions for academic institutions.

Knowledge co-production with Indigenous Peoples and communities

Knowledge co-production is a process through which research goals, methodologies, and outputs are jointly designed by research partners, including academic researchers, stakeholders, and rights holders. Driven by a growing recognition of the value of Indigenous Knowledges, and the effectiveness of co-production in bridging the gap between knowledge generation and action, researchers are increasingly co-producing knowledge with Indigenous Peoples and communities [1]. Research co-production with Indigenous Peoples and communities is distinct from partnerships among non-Indigenous collaborators in several important ways. For example, Indigenous Peoples and communities are rights holders and/or titleholders, not stakeholders [2]. As such, there exist greater ethical and (in some cases) legal obligations for researchers to seek free, prior, and informed consent from, or research partnerships with, community members [3,4]. Cultural differences between research partners can also manifest as differing research approaches, including worldviews, methodologies, priorities, intellectual values, and measures of success [5,6]. Crucially, as parts of colonial systems, research institutions (e.g., academic, government, NGOs) and research practices have perpetuated, and continue to perpetuate, violence against Indigenous Peoples via extractivism and the distortion and commodification of Indigenous Knowledges (e.g., [5,7,8]).

Responsibilities of researchers

Researchers entering into research partnerships with Indigenous Peoples have a responsibility to understand and respect these contexts and move forward 'in a good way' (i.e., honouring Indigenous tradition and spirit) [9]. Responsible co-production extends beyond mitigating the potential harms imposed by research on Indigenous communities, and can serve 'decolonial and reconciliatory efforts to rectify … unjust dynamics [in research]' [9] by addressing Indigenous Peoples' priorities and values, and yielding benefits to their communities [9,10].

In recent years, several authors have provided guiding recommendations for researchers to responsibly co-produce research with Indigenous Peoples (e.g., [2,9–11]). While these represent important contributions, they primarily focus on individual-level actions (i.e., of those 'on the ground' collecting data or building relationships) and 'changing hearts and minds' approaches (e.g., practicing reflexivity, respect, and reciprocity), with limited attention to institutional strategies for addressing academic paradigms that disincentivize responsible co-production (but see [2]). Here, we identify challenges to co-producing research with Indigenous Peoples that arise from academic institutions (e.g., universities, funding bodies) and cultures, and provide recommendations to lessen burdens on individual researchers and transform academic approaches to co-production.

Challenges to co-production with Indigenous partners

Many of the challenges we have faced share common themes, including: (i) a lack of institutional support (e.g., administrative, financial, merit evaluation, awards); (ii) mismatches between academic timelines, funding structures, and the time and resources required to co-produce knowledge; (iii) a lack of specific training opportunities (e.g., in history, cultural competence, communication, reflexivity); and (iv) differences between academic and Indigenous

partners' ways of knowing and their approach to research.

Co-production is increasingly encouraged by academic institutions, but academic merit systems disproportionately reward researchers with extensive, high-impact publication records, where 'high-impact' research is often defined as highly cited or considered broadly applicable. This definition usually does not consider impacts on policy or local management that are relevant for Indigenous partners, nor does it recognize the time-consuming, resource-intensive, and emotional labour required to build and maintain relationships. Community-engaged research is often seen as less rigorous and more subjective than conventional academic research and is therefore considered less academically meritorious. Furthermore, misalignment between the requirements of co-production and academic and granting requirements (e.g., degree and funding timelines, acceptable expenses, degree expectations) imposes pressure on researchers that may impede co-production (e.g., by limiting time spent on relationship-building or prioritizing the publication of peer-reviewed articles over formats that may be preferred by Indigenous partners), and in some cases, proliferate harms [9], including by incentivizing the publication of research that Indigenous partners would prefer be kept private. Finally, co-production requires a large breadth of skills that many researchers do not receive formal training in (e.g., reflexivity, cultural competency, navigating relationships). Many of these challenges present particular barriers for students and early career researchers (ECRs), which are exacerbated by the lack of power held by these individuals to implement meaningful, systemic change in the academy (but this is shifting in some cases, see [12]). As such, cultural shifts in academic institutions require adaptation from multiple levels of the academy, including principal investigators, academic units/departments, and funding bodies.

Solutions

Providing an alternative to existing guidance, which targets individuals, and usually ECRs, most of the solutions we share would be best implemented across academic institutions.

Key themes

- Redefine measures of academic success. Academic institutions should consider the aptitude required for responsible co-production when administering awards, appointments, promotions, and tenure. Research products other than peer-reviewed articles may be preferred by research partners (e.g., reports, community presentations, artistic outputs) and should be recognized as meritorious. Finally, like interdisciplinary research between academic partners, co-produced research is just as, if not more, rigorous than unpartnered research because co-produced research weaves multiple types of information and should be recognized as such.
- Provide flexibility and training opportunities. Given the time required to build relationships with research partners and the skills needed to co-produce knowledge, researchers with Indigenous partners may require flexibility in administrative and research timelines. This flexibility could include rolling deadlines for grant applications and reporting, and recognition of in-progress research efforts in evaluation processes. For students, flexibility could include allowances in degree-completion timelines for relationship building or the acceptance of transfer credits for coursework outside of their disciplines (e.g., social sciences, project management). Institutions should provide specific training opportunities (e.g., equitable research in Indigenous contexts, Indigenous engagement protocols) or formally recognize and credit these types of training provided elsewhere.
- Increase bi-directional inclusion. Indigenous research partners are experts in their fields and should be acknowledged as equal contributors to, and leaders of, co-produced projects. To do so, universities should expand criteria for inclusion to allow Indigenous research partners to hold leadership positions (e.g., as recognized knowledge-holders, adjunct professors) and serve on academic and graduate committees. In addition, Indigenous leaders should be granted access to resources (including funding opportunities) and decision-making power.
- Expand funding opportunities and support for partnered research. While research funds for partnered research programs exist, many of these come with high administrative and financial burdens for Indigenous research partners. Streamlined application and reporting processes or administrative support for research partners would reduce this barrier. In addition, many existing funds support relatively short-term projects (1–5 years) and thus cannot build lasting capacity in partner organizations, nor initiate and maintain long-term studies that provide important biological and environmental insights. Longer-term funding options would support longer-term partnerships, and thus, more fruitful and responsible co-production.

Bright spots towards responsible co-production

Despite the challenges identified, progress is being made. Some Canadian universities have started Indigenous research/co-production funds, recognizing the need for flexibility in acceptable expenses for co-producing research with Indigenous communities, including honoraria for Elders, meals, and gifts.

Recent years have seen an increase in targeted faculty searches to support Indigenous researchers who have expertise in community-engaged or co-produced research. In Australia and New Zealand, Indigenous leaders are provided with university credentials based on their expertise as knowledge holders without the requirements of meeting stringent academic definitions of education [13]. Liaison organizations (e.g., Ha'oom Fisheries Society), and specific liaison positions within the academy are emerging to facilitate partnerships between academic researchers and Indigenous collaborators, bridging perspectives, and serving as capacity reservoirs (including through funding, being the first point of contact for academics wishing to work with Indigenous groups, and/or providing scientific expertise on behalf of Indigenous groups).

Our perspective is one side of the story

Indigenous people in research partner roles (i.e., in non-profit or governmental institutions) would likely identify a different set of challenges and solutions than those presented here. Cannon *et al.* [14] documented a workshop on Indigenous data sovereignty, in which Indigenous Knowledge holders and First Nations' technical staff shared recommendations for external researchers. Some of their recommendations are echoed in our work, including the need for researchers to become educated on governance structures and data sovereignty, and preparing draft data-sharing agreements. Gazing Wolf *et al*. [15] reported on a workshop in which Indigenous scholars highlighted possible paths to reconciliation between Indigenous Peoples and academic institutions. They too, identified many of the same themes and solutions we identify here [15]. Notably, changes to the academy must come from within, while being receptive to the input and needs of Indigenous scholars and research partners, rather than placing the necessary labour on Indigenous partners to identify solutions.

Meaningful co-production of research

The process of knowledge co-production with Indigenous partners can foster inclusive, impactful, and relevant research [1]. When done in a good way, co-production is a more ethical way to do work on Indigenous Lands. However, despite growing recognition of the benefits of co-production, academic institutions and their entrenched structures often hinder the realization of these benefits. As academics and governments recognise the relationship between social and ecological justice, and Indigenous groups progress in exercising their sovereignty and rights, there arises an urgent need for researchers to address challenges to responsible co-production. To meaningfully co-produce research, we must move beyond individual-level solutions and instead commit to making proactive institutional changes that support equitable, long-term, and responsible research partnerships.

Note concerning the positionality of the authors

The author team represents a diversity of personal and professional backgrounds, with a mix of distinct Indigenous and non-Indigenous identities. We represent various career stages (student to late-career) of academic and professional careers in the natural and social sciences, including roles in academic institutions, and Indigenous and non-Indigenous non-governmental organizations. Our research interests are biased towards the aquatic sciences as we met through our research networks. We all currently reside in Turtle Island (one alternative name from Indigenous Nations for what is now known for North America), with the majority of us living and working in Canada. Several of the authors are both Indigenous community members and hold academic positions: roles that are at times inseparable. We come to this work primarily from our positions in academic or adjacent organizations, and use this experience to speak to the challenges and solutions for breaking down barriers in the academy. Here, we focus on challenges arising from, and that can be addressed by academic institutions. While we recognize that other Indigenous community members outside of the academy would likely identify a complementary set of challenges and solutions, this labour of removing academic barriers should not fall to Indigenous communities.

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Declaration of interests

The authors declare no competing interests.

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